

# **Rail-volution 2005**

**September 8-10, 2005**

**Salt Lake City, Utah**



**Workshop Summaries**

# **Rail-Volution**

**Building Livable Communities with Transit**



**Made possible by a generous donation from  
Gibbs and Catherine Smith.**

# Rail-Volution

## Building Livable Communities with Transit

For ten years Rail-Volution has brought together people from all over the world interested in building livable communities and developing efficient transportation alternatives. In 2005 the conference was held in Salt Lake City, the heart of the Intermountain West. For three days professionals from a variety of disciplines collaborated and learned about transit and its effect on development patterns. Participants were able to discuss solutions to their city's challenges, as well as discover new strategies for future projects.

Several themes were repeated throughout the conference, which are worth emphasizing here. First of all, transit-oriented development is challenging, and any one person, community, developer, city, or transit agency cannot do it alone. The importance of partnerships was emphasized again and again. Each stakeholder in a development project has different abilities and strengths, which should be capitalized on in working relationships with other groups. Cities will find that if they have land near a transit line and wish to create transit-oriented development on the site, a strong, early partnership with a dedicated developer and a committed transit agency will make the planning process easier and more effective.

Second, a strong, charismatic, and trusted leader is essential to getting transit-oriented development built. Having a high-profile public servant or elected official advocating for this type of development will open doors that even the most dedicated and passionate planner or transit official could not. Curitiba, Brazil profited from the tireless dedication to community development and transportation issues of its long-serving mayor, Jaime Lerner. In our own country, Chicago's Mayor Daley

has been a strong force in the development of that city's transit-oriented development patterns, as well as other environmental and energy policies that have made Chicago more livable. Salt Lake City itself has also benefited from the advocacy of Mayor Rocky Anderson for transit issues and sustainable community policies. Any community that wishes to make progress in developing more transit-oriented projects must involve officials in the highest levels of government.

Third, early community involvement is requisite to complete a successful project. This includes private citizens as well as the local business community. Early public involvement will not only produce a broader base of community support, but will also generate a more comprehensive, workable, and productive design. Public design charrettes are costly and time consuming to organize, but the end result will be much better for all stakeholders involved. Too often planners feel that they know what is best, and feel that it is their job to give the public what they need, without necessarily involving the public in the planning process.

In one case in Arizona, an entire road expansion project had to begin again when the public outcry against the proposal was so great that it led to the public hiring their own engineers to

evaluate the project. A lengthy public charrette process followed, but the results produced were something that everyone could support.

Finally, there are many barriers blocking the creation of quality transit-oriented development in virtually every city in America. City planners can do their part to eliminate a lot of the red tape, and roll out the red carpet instead for those who are interested in develop-



## Rail-Volution 2005

ing more livable communities. Zoning requirements, particularly parking requirements, stand in the way of more developers becoming involved in these projects, due to high costs and added risk. It is much easier for them to do “sprawl” type developments today than it is to become involved in quality growth. Until this changes, communities will not see a significant amount of this type of development in their cities.

Those interested in learning how communities effectively create transit-oriented development have many examples around the country to emulate. Most major cities have found ways to remove their barriers to transit-oriented development, although this is still a work in process. Several cities are using transit system expansions to revitalize their downtown areas, as well to create solutions to major jobs and housing imbalances. Changes are taking place around the country as



more and more people are looking for ways to reduce their dependence on non-renewable energy resources.

Following are brief summaries of the workshops held during the three-day Rail-Volution conference in Salt Lake City. Volumes could be written on each subject, but these short summaries will serve to give a short over-view of key points covered during the presentations. More information can also be found at [www.railvolution.com](http://www.railvolution.com).

Thanks go out to all those who helped in the compilation of this document.

Thanks especially to Gibbs and Catherine Smith for making this document possible through their generosity. Thanks also to the students in the College of Architecture+Planning at the University of Utah, Keith Bartholomew from the University of Utah, Hal Johnson from the Utah Transit Authority, and to Mary Simon from the Rail-Volution steering committee.

Mark Morris  
College of Architecture + Planning  
University of Utah

# Table of Contents

<b>Opening Plenary</b>	1
<b>Transportation Planning</b>	
Mode: What's the Difference When It Comes to Land Use?	6
Multi-Modal Transportation Centers: Catalysts for TOD	8
Planning Transit for TOD	11
What Transit Can Learn from New Urbanism.	15
Transit Agencies and Third Party Cooperative Initiatives	17
Streetcars: It's Not Just LRT Anymore	20
"BRT-ransit" Oriented Development	23
Carsharing: Another Transit Connection	26
It's the Last Mile that Makes the Difference!	29
Environments That Support Walking to Day-to-Day Destinations	33
<b>Planning Policy</b>	
Removing Obstacles to TOD and Smart Growth	38
Effective Advocacy Strategies	42
Transit-Oriented Development Performance Measures	44
Tearing Down the Barriers to TOD	50
Gain Leverage from FTA's "New Starts" Land-Use Criteria	52
Form Before Function	57
Land-Use Scenario Planning and Long-range Transportation Plans	59
Innovative Finance: Who's Got the Money?	61
TOD and What Developers Want	64
Going Green: Sustaining Our Future Through Smart Choices	67
Transportation Funding and Land-Use Control	71
Regional Decision Making	75
Driven to Spend	79
Just the Facts: Understanding the Real Benefits of TOD	81
Property Values and Transit	83
<b>Community Building</b>	
Reinventing Communities	88
Weaving Transit Through Mature Neighborhoods	90
Infill and Revitalization	93
How Many Ways Can You Create Ownership Housing Near Transit? 95	
The Kinder-Gentler Road: Context-Sensitive Solutions	98
Housing Development Collaborations and Quarrels	102
TOD and Work: It's a Real Connection	105
Keeping Our Children Moving	108

## **Public Participation**

A Citizen's Guide to Getting the Most Out of New Development	112
Access by Design	114
It Takes Two to Tango	118
Colorado's FasTraks Story: Connecting TOD to Community	123
Creating Effective Marketing Campaigns	125
Partnering with the Community	129
Traction Power to the People	131

## **TOD Planning & Design**

How to Plan and Design a High Performance TOD	135
"Liveable Lattes" TOD and Commuter Rail Station Planning	140
Developing TOD Around Rail	143
Transit Oriented Development Guidelines	147
Reduced Transit Parking at Rail Stations	150
Creating and Sustaining "Place" with Transit	152
Industrial Water Views: The Last Urban Frontier	156
More Than Just Trains and Tracks: Station Art.	159
Integrating Stations with Neighborhoods	161
Making Streets Fit for Cities and Towns	164
Developing Partnerships to Sustain Rail and TOD	166
Improving the Model Community: New Concepts for Columbia	169
Parking for TOD	171

<b>Closing Plenary</b>	174
------------------------	-----

## Opening Plenary

**John English**, General Manager, Utah Transit Authority, Salt Lake City, Utah

**Orrin Colby**, President, Utah Transit Authority Board of Trustees, Salt Lake City, Utah

**Rocky Anderson**, Mayor, Salt Lake City, Utah

**Earl Blumenauer**, 3rd District, Oregon, United States Congress, Washington, D.C.

### Welcome to Salt Lake City

John English, General Manager, Utah Transit Authority, Salt Lake City, Utah

Salt Lake City is excited to be host to the tenth annual Rail-volution conference. The theme chosen for this year's conference is "the Power of Partnerships." It is only through partnering with other groups and organizations that progress can be made in improving transportation in our nation's cities.

Through partnerships so many good things are happening along Utah's Wasatch front. About two weeks ago broke ground on Utah's first commuter rail line. Running forty-three miles from Ogden to Salt Lake, this project was made possible because of an extraordinary agreement between the Utah Transit Authority (UTA) and the Union Pacific Railroad. Union Pacific agreed to sell 175 miles of their right of way, including ideally located land for stations. This was brought about because of the governor of the state, who became involved in the process, and issues around property were relatively easily resolved.

As for light rail, two TRAX lines are in place from downtown Salt Lake City to Sandy and from downtown to the University of Utah. The University Line has set new records for UTA, which now has a 25% mode share to the University. The school has been able to remove parking lots to be replaced with educational facilities, at great savings to the U, and of great benefit to the students.

The draft environmental impact statement is now done on plans to extend a TRAX line out to the new Day-

break project, a partnership with Rio Tinto, and Kennecott Land. Being the largest land owner in Salt Lake County, Kennecott Land is focusing their development plans on developing walkable communities, tying in with public transit and light rail. UTA is working with them to make transit a major component of their new development.

Another partnership that has been beneficial to UTA has been with local business leaders. They wanted to get ten of the top business leaders in the state to appear in commercials for UTA, encouraging use of the bus and light rail system. Included in these ten were Larry Miller, the owner of Utah's largest car dealership, the CEO of Zions Bank, the head of Utah Power and Light, and H. David Burton, the Presiding Bishop of the Church of Jesus Christ of Latter-day Saints. UTA ended up with ten spots, emphasizing to the public that

business simply doesn't happen without people, and transportation means people, using the slogan, "Even if you don't ride it, you use it."

**It is only through partnering with other groups and organizations that progress can be made in improving transportation in our nation's cities.**

Other great partnerships have been developed that have greatly benefited UTA and Utah's public. The transit system continues to grow, and will continue to improve the lives of Utahns as it does so.

### Salt Lake's UTA

Orrin Colby, President, Utah Transit Authority Board of Trustees, Salt Lake City, Utah

The Salt Lake City region has long been called the "Crossroads of the West," serving as a transportation hub for the American West since the beginning of its modern colonization in the 1840's. Today the region is home to 1.5 million people, and continues to be an important transportation hub due to its key location.

The Utah Transit Authority was established in 1969, and it has led the movement to create great transportation systems for the Salt Lake metropolitan area. Today the UTA system carries about 120,000 passengers daily, and definitely couldn't have done this without strong partnerships in the community.

## Opening Plenary

Federal state and local leaders have helped, as have everyday users. The UTA board of directors has discussed transit-oriented development for years, and what their role as a transit authority is in relation to development around the system. UTA has now established a comprehensive real estate policy that they hope will encourage transit-oriented development in order to increase transit choices around the region.

UTA has created as a mission statement the following: “Utah Transit Authority strengthens and connects communities enabling individuals to pursue a fuller life with greater ease and convenience by leading through partnering, planning, and wise investment of physical, economic, and human resources.” UTA hopes to be on the leading edge of improving the quality of life of all those in the Salt Lake region, and will continue to strengthen partnerships in order to bring about positive change in the region’s transportation networks.

### Salt Lake City’s Role

Rocky Anderson, Mayor,  
Salt Lake City, Utah

With each expenditure of non-renewable resources, we are diminishing the prospects for healthy, prosperous lives for future generations. Our pollution, especially our emissions of greenhouse gases, threaten the future. Cities everywhere face the challenge of how to be sustainable over the long-term, so that our children and the generations that come after them have the opportunity to live in a safe, healthy, thriving world. The Great Law of the Iroquois Confederacy stated “In our every deliberation, we must consider the impact of our decisions on the next seven generations.” We must think of future generations as we make planning choices in our nation’s cities.

In Salt Lake City we have been working to implement urban development and environmental policies and programs that build on the natural strengths of our city and protect its health and vitality, now and in the future.

In the American Lung Association State of the Air: 2005 report, Salt Lake County is given a grade of “F” for high ozone days and an “F” for particle pollution during a 24 hour period. This is created by the decisions we make as policy makers. Poor air quality adversely impacts public health, quality of life and economic development. Smart growth principles that encourage compact, walkable communities, promote mass transit, bicycling and alternative fuel vehicles, as well as the conservation of non-renewable resources, are essential tools in our efforts to improve our air quality. Smart growth, urban sustainability and improvement of our air quality is directly linked to the quality of our mass transportation infrastructure.

**“In our every deliberation, we must consider the impact of our decisions on the next seven generations.”**

**Great Law of the Iroquois Confederacy**

Perhaps the most important change we have made in our transportation infrastructure is the development of a light rail transit system. Building light rail was not easy. The road toward construction of the first light rail line – a fourteen mile north-south line – was extremely contentious. The forces opposed to light rail were very vocal. They were adamant that Utahns, unused to transit, would not ride light-rail. They have been proved wrong. Ridership is far greater than even the most optimistic projections. Because of the light rail successes, the very conservative voters in our region have voted for sales tax increases for transit and are now clamoring for light-rail spurs to be built in their communities.

Creating safe and interesting walkable communities is also one of our major priorities and a way to improve our air quality. Pedestrian safety is key. In spring of 2000, alarmed by statistics regarding the safety of pedestrians in our city, we implemented several innovative measures including:

- Orange flags at midblock crossings
- Countdown timers at crosswalks
- Pavement markers
- Overhead and in-pavement pedestrian activated lights
- Aggressive enforcement.



## Opening Plenary

Over the last five years we have worked diligently to improve the safety of pedestrians in Salt Lake City through our Pedestrian Safety Initiatives. Our work has paid off with a 31% reduction in the number of accidents involving pedestrians, as well as adoption by other communities of many of our methods. Last year we received national recognition in the Surface Transportation Policy Project's Mean Streets 2004 report, which cited Salt Lake City as the most improved city in the nation for pedestrian safety.

As a part of our overall effort to increase the number of people walking in our community, we are also focusing on the health benefits of walking, through our SLC Gets Fit Together project. Over 2,000 people from local businesses, schools, and civic organizations have organized teams to compete for the "most steps walked" in Salt Lake City – the 13 week program began in June.

In order to improve our air quality, we will continue to right-size our city fleet and convert it to alternative fuel vehicles. Over the past five years, we have eliminated 36 SUVs from the city fleet. Also in the last year, we purchased three hybrid electric/gas vehicles. Presently, we have 89 natural gas vehicles in the city's fleet, including 75 at the Airport. Decreasing the use of electricity generated by coal-burning plants is an essential component of our Salt Lake City Green program. Converting traffic signals to LED saves us \$53,000 yearly, with huge reductions in pollution and greenhouse gas emissions. Converting lights from incandescent bulbs to compact fluorescent bulbs at City Hall reduced pollution from criteria pollutants and saved taxpayers over \$33,000. Retrofitting our lighting has not only saved taxpayers almost \$90,000 per year, but it has reduced greenhouse gas emissions by 850 tons annually.

By purchasing nearly 130,000 kwh of Blue Sky wind energy each month, we reduce our carbon dioxide emissions by 800 tons each year. This is equivalent to planting over 500 acres of trees or taking over 200 cars off the road. At our sewage treatment plant, we have installed a methane recovery system that will generate a significant portion of the plant's electricity needs, while vastly reducing greenhouse gas emissions.

A livable, sustainable city is one in which leaders and

citizens hold as fundamentally important the provision of clean air and water, the protection and conservation of natural resources, and the enhancement of human capital. We all share that responsibility - all levels of government, businesses and individuals. We have the means of making a huge, positive difference. We just need the will to make it happen.

## Envision Utah

Robert Grow, Envision Utah, Salt Lake City, Utah

The development of Utah has included many groups from all over the world. Beginning with the Mormon pioneers in 1847, immigrants have come in waves to this valley to make a permanent home. Most recently, Salt Lake has become a "second gateway" for Hispanic immigrants from Mexico and South America. It is anticipated that the Hispanic population of Utah will double in the next 10 years.

In 1997 Envision Utah was built to evaluate and address growth issues in the state. Over the next three years a broad coalition of leaders partnered to work with the public including:

- Business Leaders
- Developers
- Utility Companies
- Local Government
- State Government
- Conservation and Citizen Groups
- Religious Leaders
- Education
- Media

These groups came together to accomplish the following goals for the state:

- Enhance Air Quality
- Increase Mobility & Transportation Choices
- Preserve Critical Lands
- Conserve Water Resources
- Provide Housing Opportunities
- Maximize Efficiency in Public Infrastructure Investments

## Opening Plenary

Following this vision, more partnerships have developed, including a multimodal plan, putting a million people within a thousand steps of a transit stop. Partnerships at all scales have developed, including with developers and designers in individual communities.

Good partnerships are those that will last for the duration of a specific project. They are usually based on aligning enlightened self-interest for both parties. However, great partnerships are based on personal relationships of civility, trust and friendship, and last long after the completion of any specific project. Great partnerships pursue the fulfillment of widely-shared desires, aspirations, hopes and dreams, not only for ourselves but for future generations.

Growth in Utah will continue. Envision Utah and its partners are working to keep Utah beautiful, prosperous and neighborly for future generations.

### **The State of Rail-volution**

Earl Blumenauer, 3rd District, Oregon, United States Congress, Washington, D.C.

Great progress has been made in planning transportation across the country. Amazing development has been made in America in the transit industry, and many cities have made major course corrections in planning for transit and urban redevelopment. Cities in the West in particular have been so connected to the automobile and are now making major changes to plan for the future.

In Salt Lake City in particular there have been great strides made for the fruition of the concept of livable communities in the heartland of America. Utah's Senator Bennett has been a critical advocate for transportation planning and development, not just in Utah, but in communities across the country. Congressman Matheson of Utah is another that has worked tirelessly for legislation that will support fundamental policy changes.

Progress has been achieved due to transit planners holding on to fundamental transportation concepts, and we've remained true to the 1991 legislation that began

the push for quality transportation in our nation's cities. Eighty communities are now pursuing streetcar system, which were such an anchor in our cities 100 years ago.

With the recent devastation in the Gulf Region there are new opportunities emerging for better planning. We must use our response to this disaster as a way to sustain community and build more livable cities. Seventy percent of Americans live in areas where they are subject to one or more natural disasters. The way that we plan to deal with disasters will shape our cities at the most fundamental levels.

All of us should incorporate into our thinking ways to pressure our local, state, and federal officials to get serious about protecting against natural disasters. We should use what is happening in the Gulf Region as a model of what to do with a redevelopment of a disaster area. How do we guarantee that public infrastructure is rebuilt to a higher standard? How do we strike a model that engages the citizens in every aspect of the region's structure? How do we help them become involved in planning, design, and reconstruction?

We shouldn't just rebuild the cities of the Gulf Region, including New Orleans, but do it well, and do it right. This is the closest that we'll get to a blank slate when it comes to city building, so let's do it right. The notion is that these choices are within our control, so we've got to change our mindset now, when we're looking at this critical area as a nation. We must use natural solutions where possible. The Mississippi River is not a machine, and we've been treating it as one. We must rethink our relationship with nature, and work with it, instead of against it.

This is an opportunity when the world is watching the planning of this area. If done well, it will do more than just take care of the devastation, but heal the body politic, and make planners work in the area easier in the long run. As we work together to better plan our nation's cities, it will make our communities more livable, our families safer, healthier, and more economically secure.

# Transportation Planning

## Mode: What's the Difference When It Comes to Land Use?

**Jeffrey Boothe**, New Starts Working Group, Washington, D.C.

**Maria Rosario**, PB Placemaking, Washington, D.C.

**Richard Feder**, Port Authority of Allegheny County, Pittsburgh, Pennsylvania.

**Hal Johnson**, Utah Transit Authority, Salt Lake City, Utah.

### Does One Size Fit All?

Maria Rosario, PB Placemaking, Washington, D.C.  
rosario@pbworld.com

In deciding the best mode of transit for a community, it is best to examine the people of the area and let them guide the decision. It is important to take into account three main issues when deciding on a transportation type: demographics, economics, and culture.

Demographics include things such as age, gender, income, and education. These should be taken into account because while a younger person may ride a bike to a transit location, an elderly individual may not. Income is important to consider because wealthier individuals are more likely to own cars and drive them than people with lower incomes.

Closely tied to income is economics. It is important to consider factors such as the price of housing in a given area, parking costs, fares for public transport, and fuel prices. Ridership on transit is closely related to gas prices, which have recently increased dramatically. Fuel prices are perhaps more important today than they have been in the past.

The final factor to consider is culture, such as ethnicity, history, and values. Culture is important to consider because different cultures become accustomed to different transport modes. A transport type that works well in Europe may not be the best to use in America. Europeans in general are willing to walk farther than the average American. This same philosophy can be applied to different parts of America. New Yorkers generally don't own cars and are willing to walk long

distances each day, while the vast majority of Los Angeles' residents own cars and drive them nearly everywhere.

The main types of transit chosen in the United States are heavy rail or commuter rail, light rail, and rapid transit bus lines. Light rail and bus rapid transit are emerging as the most popular new forms of transport because of their new design features, and low price as compared to commuter rail. In addition, what is outside the windows is as important as who is inside the windows. It's not the mode, but the market, the location, and the planning framework that determine if a transportation mode is successful.

### Pittsburgh Regional Transit

Richard Feder, Port Authority of Allegheny County, Pittsburgh, Pennsylvania.  
rfeder@portauthority.org

Port Authority of Allegheny County, Pittsburgh, Pennsylvania operates several different transportation modes in its regional system. These include bus, light rail, inclined plane and paratransit. Port Authority is currently pursuing joint development projects at twelve major transit stations. Major development is in place along the light rail line, because the line is built on a streetcar right-of-way around which the land has been developed; a significant amount of new development and redevelopment has occurred and is being actively pursued along the busways of their system. Port Authority has also developed a transit-oriented development (TOD) educational program to increase awareness of the importance of this type of growth.

Among the examples of development occurring along the Port Authority's system is an old industrial building that has been renovated and turned into affordable housing.

Another is a new office building and townhouses in an area called Shadyside, which occurred along the East Busway. There are also new and expanded retail and food stores that may not have been built had the transit fixed guideways not been in place. Most of the new development along the system has been focused in the East Liberty and Shadyside neighborhoods along the East Busway. Active planning is underway to increase the amount of TOD along the light rail line.

## Mode: What's the Difference When It Comes to Land Use?

There are also environmental considerations to be made when choosing a transportation mode. In selecting between modes in a corridor, the following environmental factors can be used to differentiate between light rail and busway: air quality, construction impacts, energy, noise and vibration, public involvement, safety and security, secondary and cumulative impacts, transportation impacts and effectiveness, and visual and aesthetic impacts.

Port Authority's TOD educational program is primarily geared toward municipalities and developers. It covers the main characteristics of TOD and the benefits of building TOD. Design aspects are covered, as well as the development and financial resources that are available to municipalities and developers interested in TOD.

### Understanding Utah's Transportation Needs

Hal Johnson, Utah Transit Authority, Salt Lake City, Utah.  
hjohnson@uta.cog.ut.us

The population of Salt Lake and the surrounding areas is rapidly growing. The population increase over the last few years is causing increased traffic congestion, and has given Salt Lake/Ogden one of the most dangerous auto/pedestrian environments in the United States. Since Salt Lake is located in a basin, it is also especially sensitive to air pollution released by automobiles and trapped by inversions. Given these factors, public transportation must function effectively and efficiently in order to reduce these destructive conditions.

The Utah Transit Authority (UTA) currently operates more than 600 buses and 40 light rail cars. In 2004 the UTA system carried more than 34 million passengers. Working with other partners, UTA has developed the 2030 Long Range Transportation Plan, a plan for additional transit in the Salt Lake region. The plan includes more than 120 miles of commuter tran-

sit, 60 miles of light rail, and 80 miles of bus rapid transit. Community leaders are already asking UTA to complete this plan by 2012. An increased tax in 2006 would allow UTA to complete 4 additional light rail lines, 2 bus rapid transit lines, and the second phase of the commuter rail line.



**Salt Lake City will be opening a new commuter rail line in a few years.** Photo courtesy of Hal Johnson.

UTA has been able to purchase 175 miles of rail track from Union Pacific. Benefits to this include no delays due to track sharing and the ability to control service frequency. The first phase of the commuter rail will connect Salt Lake City to Weber County, a distance of approximately 40 miles. Phase two is currently under study, and will connect Salt Lake City to Provo.

Demand for light rail has far exceeded expectations. UTA forecast that there would be about 14,000 weekday riders on the North/South TRAX line, but more than 25,000 actually use it today. The 10,000 using the University TRAX line also far exceeds UTA's forecast of 6,600 weekday riders. Additional lines in the next few years will connect West Valley City, South Jordan, and Draper to the TRAX system.

Bus rapid transit (BRT) will be a new element in UTA's system. A nine mile route between Orem and Provo is currently being studied as part of the Utah County Transit Way. This BRT line will connect two intermodal stations with connections to the commuter rail that will eventually come to Utah County. A similar BRT line is under study in Davis County, just north of downtown Salt Lake.

As Utah continues to grow at a phenomenal pace, UTA hopes to provide more diverse transit options that will alleviate many of the congestion and air quality problems that have begun to plague the Salt Lake region. With additional funding, the also hope to complete proposed projects long before their 2030 plan deadline.

# Multi-Modal Transportation Centers: Catalysts for Transit-Oriented Development

**Rich Weaver**, American Public Transportation Associate, Washington, D.C.

**William Baumgardner**, Arup, San Francisco, California

**Warren Rempel**, IBI Group, Vancouver, British Columbia, Canada

**Eric Anderson**, Parsons Brinckerhoff, Denver, Colorado

## Sacramento Valley Station

William Baumgardner, Arup, San Francisco, California  
william.baumgardner@arup.com

This new transit-oriented development (TOD) is proposed in an area of redevelopment that was once a major rail yard in the heart of Sacramento. The project area was previously a super fund site, and the size of the property was sufficient for a multi-modal transportation center. The redevelopment area is almost equal in size to the existing downtown Sacramento area. The fact that it is such a large parcel of property in the heart of the city makes this project a great opportunity for the city to create not only a good, efficient mixed use development, but also an opportunity to make it a destination development.

The current plan will bring a light rail line into the redevelopment area, which will connect to the new intermodal hub and the commuter rail line. There has been strong regional support for creating a downtown transportation hub, but the challenge has been coming up with a design that everyone could agree on. The community felt strongly that the existing historic depot building be incorporated into the new multi-modal center. Since the depot was poorly located in relation to the existing track, it was a challenge coming up with a solution that would be efficient as well as aesthetically pleasing.

Sacramento's commuter rail system currently runs ad-

acent to the site. The track's current position is also restricted by surrounding properties that greatly complicate the project. With this in mind it was proposed that they move not only the track but the entire historic train depot to a new site just north of its current position. By moving the depot, the city can also move the location of the commuter rail, which solves two of the problems that planners faced. Although it will cost a great deal to move the building, the city determined that it would be best preserved and appreciated as part of the multi-modal transportation center.

During the design phase, 27 alternatives were developed, which were then narrowed down to four. By moving the depot building, designers were able to reclaim two more blocks directly adjacent to the downtown district, creating a larger area for joint development. Moving the building also allowed for the development of a larger gathering space in front of the building.

Currently, the proposed changes in the railyards are going into design review. The city is also looking for funding for the project. Estimated to cost more than \$200 million, they have already gotten some funding from 2005's federal transportation bill. They hope to have the project built and running by 2012.



**Sacramento's redevelopment project around its historic depot will revitalize an area adjacent to its downtown.** Photo courtesy of William Baumgardner.

The lessons that have been learned by the project planners include the importance of integrating the new project with development in the area. Street improvements in the area have been designed to benefit all modes of transportation, particularly bus and pedestrian connections to the multi-modal hub. It has also been important for the project planners to build consensus among disparate groups.

They found it beneficial to meet as a large group of stakeholders, as well as to meet with individual groups in order to candidly address concerns. By thinking outside the box and producing a dramatic design, the city council was able to rally behind the significant changes and foster public support.

## Multi-Modal Transportation Centers: Catalysts for Transit-Oriented Development

### Denver's Union Station

Eric Anderson, Parsons Brinckerhoff, Denver, Colorado  
AndersonER@pbworld.com

Denver's ambitious new Fastracks system will result in 119 miles of new rail line, converging in the center of Denver at the historic Union Station. The Regional Transportation District purchased Union Station in 2002 and organized a visioning effort in 2003. A partnership was formed among four agencies to determine what would develop at the Union Station site. These partners were the City of Denver, the Colorado Department of Transportation (CDOT), Denver Regional Council of Governments (DRCOG), and the Regional Transportation District (RTD). Each of these partners had an equal vote in the visioning process, and held many meetings with stakeholders and the public in order to produce a plan that everyone could support.

The site itself is almost entirely vacant. At one time there were 35 tracks running through the site, but in 1980 the tracks were consolidated. Today Amtrak and a ski train run through the site, as well as a light rail line. The station is more than 72,000 square feet, which will allow for many different uses once the development is finished.

The program for the building will integrate 36 different transportation modes. In order for the rest of the project to work it had to be a transportation project first and foremost. In addition to multiple connections among many modes of transportation, the plan will also integrate nearly two million square feet of new development. The three main rail components of the station will be underground, which will allow a major pedestrian connection on the street level. Buses will operate on the second level, and a parking structure of 1700 spaces will be incorporated on the third level.

During Phase 1 of the project the existing light rail line will be buried, and 750,000 square feet of the develop-

ment will be completed. The project is estimated to cost more than \$560 million, with \$200 million coming from the Fastracks funding during its first phase.

So far, the project has gotten great response to its request for qualifications. Developers will be short listed in late 2005, and a master developer will be chosen in 2006. The project will be a great challenge, and keeping the existing transportation systems running while new development is built will be a primary priority.

### Salt Lake City's Intermodal Hub

Warren Rempel, IBI Group, Vancouver,  
British Columbia, Canada

The city of Salt Lake has been redeveloping the industrial area west of its downtown for a number of years. With the completion of a commuter rail line in just a few years time, the city has prepared a plan for a major TOD in the blocks adjoining the new Intermodal Transportation Hub.

The terminal building is now operating and will be expanded in the future.

There will be an additional 90,000 square feet of mixed-use office and retail space constructed on the site of the Intermodal Hub, and will be ripe for redevelopment by the time commuter rail is scheduled to begin operations in 2008.

The city's vision is to use the new hub and commuter rail as catalysts for development of TOD in the adjacent 20-block area. Currently, the area is mostly light industry, with some single family housing, and lots of underused land. The new Gateway Mall development has renewed interest in the area around the Intermodal Hub.

Designers on the project have analyzed many ways to best create a livable, walkable community located immediately adjacent to Salt Lake's downtown district.



**In order for the rest of the project to work it had to be a transportation project first and foremost.**

## Multi-Modal Transportation Centers: Catalysts for Transit-Oriented Development

Salt Lake has large blocks that are great for accommodating new light rail development, but are difficult to make more pedestrian friendly, due to their length. The designers came up with a design that would cut a curvilinear street through the middle of the large block areas, and create smaller, more community-oriented parcels.

Working around existing buildings, planners created an illustrative master plan that accommodates the new commuter mass transit as well as auto-based transit and creates more walkable places. The project is beginning to take shape as commuter

rail comes closer to completion. The Gateway Mall is currently undergoing expansion, and buildings around the site are beginning to develop.



**Salt Lake City's Intermodal Hub will be the center place of a new west side development.** Image courtesy of Warren Rempel.

Cities around the country are realizing the importance of large scale transit systems. With the development of multi-modal centers, these cities are also experiencing the development benefits that these centers can provide. As more and more cities focus on TOD around their transportation centers, communities will develop that are based on transportation efficiency and sustainable growth patterns.



# Planning Transit for TOD

**Paul Marx**, Federal Transit Administration, Washington, D. C.

**Susan Herre**, Federal Transit Administration, Washington, D.C.

**Jan Wells**, Rutgers University, New Brunswick, New Jersey

**Laura Harmon**, Charlotte-Mecklenberg Planning Commission, Charlotte, North Carolina

Planning for transit-oriented development (TOD) should start when transit planning starts. TOD increases accessibility in places at the scale of the station area to enable the transit network to increase accessibility at the scale of the city. This is based on the premise that transit's first job is to serve existing communities, centers, and nodes of development.

The object of TOD is to increase pedestrian access at two scales: the scale of the station area and the scale of the city. TODs require development-focused, pedestrian-serving transit as opposed to auto-oriented transit. So how can we plan transit to promote more and better pedestrian access? This requires the intention to locate in the heart of a place and serve people where they already are.

## Los Angeles

Susan Herre, Federal Transit Administration, Washington, D.C.  
sherre@ucla.edu

The case studies of the Blue, Green, and Red Lines from the Metro Rail System of Los Angeles County Metropolitan Transportation Authority illustrate the point that planning for TODs must start with planning for transit. These cases examine the forces and motivations that shaped these transit lines. Additionally, the studies look at the

land use context in which the rail lines were planned and that exist today.

The Blue Line opened in 1990 and runs 22 miles, serving 22 stations. The line starts in Downtown Los Angeles in the subway at 7th Street/ Metro Center and runs on surface level to Long Beach. The route follows the old Pacific Electric Red Car route, shared tracks with freight rail, and traveled through a heavy industrial area. The Red Car route helped to establish the mindset for the Blue Line planners -- if the location worked before it will work again, and its easy.

The primary goals of the Blue Line project were defined in the environmental document as cost effectiveness and ease of construction. The evaluation criteria for alternatives in the 1983 Design Concept Report indicated the first criteria was operating speed while the thirteenth of fourteen criteria, a low priority, was redevelopment impact potential.

To bring this case study up to the present, the 2001 Los Angeles City Framework Element Long Range Land

Use Diagram set forth a citywide comprehensive long-range growth strategy. Regional centers, community centers, and mixed use boulevards were called out as targeted growth areas. Except for Vernon, the Framework Element designated no growth areas at Blue Line Light Rail stations. The land use planners in 2001 basically ignored the Blue Line! What do we make of this land use planning? We know urban industrial lands are important, soil clean-up is expensive, revitalization dollars are limited and reasonably put toward existing commercial and residential areas first. All of this is not unreasonable.

So then what do we say about the Blue Line transit planning? Would we repeat this locational decision today? Would we locate a transit line in an abandoned industrial corridor and avoid the commercial and residential district a mile away? We can say the Blue Line was "path of least resistance transit planning"

**What is the objective of Transit Oriented Development? TOD increases accessibility among places at the scale of the station area to enable the transit network to increase accessibility at the scale of the city.**



## Planning Transit for TOD

The Watts Riots that had occurred some twenty years earlier were partially blamed on the area's poor public transportation, which led to citizens' feelings of isolation and frustration. Today nonprofit organizations work hard to stimulate economic development in the Central Avenue area. We can wonder if the Blue Line had been located in Central Avenue would the residents of South East Los Angeles have been better off? Avoiding locating transit in the heart of a place becomes a lost opportunity.

The Green Line opened in 1995, running 20 miles and serving 14 stations. The project's stated purpose was to connect four north/south freeways and improve access to Los Angeles International Airport. The Green Line was originally designed to be multi-modal – a bus way with a highway. Ultimately it became light rail with highway.

The project was expected to have significant adverse impacts, and EPA had concerns about air pollution generated by the new system. In 1977, the final Environmental Impact Review considered two development effects from the project. One was its potential to increase the urban sprawl in the desert and mountain area of the region. The second was its likely intensification of development within the corridor. More residential development was anticipated adjacent to the new freeway and commercial/ industrial development was anticipated at the east and west ends of the project, Norwalk and LAX Airport.

The project ultimately did not connect with Los Angeles International Airport, but stopped two miles short

because the Airport Authority feared losing revenue from parking garages. The location of the stations within the median of the vast right-of-way of the freeway did not attract ridership. After four years of operation, the development in the corridor did not occur as predicted. The land uses near the massive elevated freeway seemed unchangeable. Even the best efforts

by TOD advocates could not force a transformation of immense empty parking lots and large storage areas to pedestrian friendly uses. Researchers have now proven that there is a negative effect on development and residential value when it is closer to a freeway than one-quarter mile. To paraphrase, building transit lines on freeways reduces or eliminates the neighborhood and livability benefits of transit.



**Los Angeles' Green Line is located in a highway right-of-way.** Photo courtesy of Susan Herrc.

The Red Line opened in stages from 1993 to 2000 as a heavy rail line, below grade. The purpose of the Red Line as stated in the 1980 Alternatives Analysis was to relieve freeway congestion and to spur development in the station areas in the regional core.

Red Line transit planners showed that Los Angeles' population and employment centers were generating the necessary density and intensity for rapid rail transit. The rapid rail subway concept was already envisioned in the City of Los Angeles General Plan "centers concept" adopted in 1974. One of the guiding principles of the centers concept is the linking of high density residential and community centers through rapid rail transit.

The Red Line runs from the North Hollywood Station in the San Fernando Valley to Union Station/Gateway



## Planning Transit for TOD

Transit Center in Downtown Los Angeles. In the 2001 Los Angeles City Framework Element Long Range Land Use Diagram, you can see an almost perfect alignment between the targeted growth areas by the land use planners and the Red Metro Line station locations. Further, there is a TOD overlay at a number of the stations. Land-use designations were changed over two decades to prepare for the arrival of the Red Line at these designated areas. By 2001, the land use planning confirmed and strengthened the transit planning through the Los Angeles Framework Element and through a TOD specific plan. The Red Line is an example of planning transit for TOD.

In conclusion, transit planners did not think about TOD in the Blue and Green lines. The land uses around the Blue Line were and will remain inhospitable to pedestrian uses. The transit structure of the Green Line is so “unfriendly” that it repels all attempts to TOD. The Red Line stands out like a model project providing an armature for a long future of building community. Linking existing centers, locating transit stations in the heart of a place, where people already are; maximizing pedestrian convenience, safety – this is planning transit for TOD.

### New Jersey’s Hudson Bergen Line

Jan Wells, Rutgers University, New Brunswick, New Jersey  
jawells@rci.rutgers.edu

The planning for the Hudson Bergen Light Rail Line in Hudson County, New Jersey started in the 1980s and construction will be finished at the end of 2005. The planning started in 1988 for the proposed alignment, but TOD was not part of the discussions at that point. In 1993, a locally preferred alignment report was produced. In Jersey City, this showed the light rail line connecting to the Port Authority Trans-Hudson (PATH), which houses the commuter connections to Manhattan, an essential connection for the area, and also passing along the waterfront of Hoboken..

In Jersey City, the Colgate Palmolive Company had a plan to develop approximately 20 acres in the waterfront area for office and residential use. Neighborhood resistance around the PATH station and corporate pres-

sure to better serve future office development resulted in a route through the Colgate parcel. In Hoboken, the residents did not want the light rail line along the waterfront and were vocal in their opposition. The line was ultimately realigned to run through an underutilized industrial area instead of the development-friendly waterfront.



**New development on New Jersey’s Hudson Bergen Line.** Image courtesy of Jan Wells.

Gladly, developers did not view the realignment as a lost opportunity. Jersey City has added 3,000 new residential units around stops in the Colgate redevelopment area. Hoboken added 1,500 residential units with limited retail space along its realignment. This shift also provided mass transit accessibility for the households in public housing units in Hoboken. Additionally, the ability to operate an express train service from the northern most station to stations in the south was realized and there was access for Jersey Heights’ residents to the Hudson Bergen Light Rail.

There were two outcomes that were not as positive. One was the loss of public space at one station to development. There is also a general lack of retail, restaurants, and other attractions along the rail line. Unfortunately, the stations at present are not creating the lively sense of place that is so vital to TODs.

In conclusion, those planning for TODs must consider the potential of land use in station site selection. Planners must look at the development around the stations,

## Planning Transit for TOD

but it is important to determine who should plan for the station area. In New Jersey the developers, and to a smaller degree the transit agency are taking the lead (not the municipalities) to create vision plans for area around transit stations.

### Charlotte, North Carolina

Laura Harmon, Charlotte-Mecklenberg Planning Commission, Charlotte, North Carolina  
lharmon@ci.charlotte.nc.us

The City of Charlotte, North Carolina is currently working on a long term growth strategy to manage anticipated employment and population growth in their metropolitan region. This includes five transportation and development corridors with 58 stations, most of which will be in the City of Charlotte. Transit will be used to serve the growth corridors in order to promote compact, focused growth along the corridors. The planning in this process has been managed by a multi-disciplinary team that includes urban planners, engineers, and transportation and economic development professionals who are all working with transit and land use consultants.

When looking at land use and development efforts you need to make sure you concentrate a mix of comple-

mentary, well integrated land uses within walking distance of the transit station. Mobility is important to enhance the existing transportation network to promote good walking, bicycle, and transit connections.

In Charlotte, urban design of TODs is used to enhance the community identity of station areas and to make them attractive, safe and convenient places. TOD in Charlotte means a mixture of complementary, transit-supported uses, increased land use intensity, pedestrian and bicycle systems, street networks, parking, pedestrian-friendly building design, and interesting streetscape and open space.

Station location objectives that support TOD must ensure that the stations are accessible by all modes of travel and that they serve existing development. Planning for TOD should occur from the beginning of the planning process. Planning for transit and TOD is a multi-disciplinary design project, and it is important to include the development community early in the process and to involve the developers as soon as possible. The planners in Charlotte also found that it was necessary to plan to compromise as everyone had to give a little for a better system and a better community as a whole.

**When looking at land use and development efforts you need to make sure you concentrate a mix of complementary, well integrated land uses within walking distance of the transit station.**

## What Transit Can Learn from New Urbanism

**Shelley Poticha**, Reconnecting America and the Center for Transit-Oriented Development, Oakland, California

**Ellen Greenberg**, Reedman, Tung & Bottomly, San Francisco, California

**David Taylor**, HDR, Tampa, Florida

How can transit agencies ensure that transit networks are planned to maximize the potential for development, thereby maximizing the potential for ridership? Practitioners today have a much more sophisticated understanding of how transit responds to urban form and vice versa, but there's still a big gap between the disciplines of transportation planning and urban design, there's little shared vocabulary, and there's no clearly defined methodology for determining which transit technology is best for which environment.

### What Can Transit Planners Learn from New Urbanists?

Ellen Greenberg, Reedman, Tung & Bottomly, San Francisco, California

ellen@ftburbandesign.com

Planners should be expressive and vocal advocates for the cause of New Urbanism. Planning can address the needs of the public and at the same time be environmentally conscious and sensitive to the needs that people have. As professionals, it is the planner's job to educate and inform developers, investors, and others that there are other effective ways of looking at planning.

New Urbanism influences choices at various scales. At the regional scale, New Urbanism encourages a hierarchy of places, connected by multiple modes of transportation. Development at this scale must be in-

fluenced by natural features. At this scale transportation networks must be comprehensively planned for both freight and passenger movement, and boundaries between governmental agencies and transit agencies must be addressed.

At the neighborhood scale, New Urbanism encourages transit-oriented districts and corridors composed of many "fabric sites" and a small number of "gateway sites." At this scale, density and walkability should be primary concerns to transportation planners. Also at the neighborhood scale, connections between routes and modes should be studied, as these nodal connections become opportunities to concentrate activities.

to concentrate activities.

At the street scale, New Urbanism as most people know it is expressed. It ad-

vocates a fine grain street network, buildings connected to life on the street, architectural ornamentation, and site design responsive to context. It is transit users' experience at this scale that will influence how they feel about the area and how easily they move about the urban core.

Transit planners can take many things from the New Urbanism movement. New Urbanists are passionate and charismatic people, who speak with a unified message. Their principles unify them, but they can be applied in a variety of ways and styles. New Urbanists encourage multidisciplinary collaboration, and focus their efforts

on implementation of the principles they stand for. As transit planners come to understand how New Urbanism can affect their planning process, they can see added success in their projects.



### New Urbanism and Transit: the Need for Cross-Training

David Taylor, HDR, Tampa, Florida

Collaboration in transit is important because it can contribute to development patterns in our communities. If done correctly, the place will thrive and grow, but if

**New Urbanists encourage multidisciplinary collaboration, and focus their efforts on implementation of the principles they stand for.**

## What Transit Can Learn from New Urbanism

done unwisely can lead to sprawl, especially when the personal car is the only form of transportation available. Transit is a single, powerful investment that reinforces healthy patterns, revitalizes by-passed properties, and redirects new developmental patterns.

Transit-ignored development (TID) is the opposite of transit-oriented development. TID is a development or destination that has overlooked transit connections, thus reinforcing the need for planners, transit engineers, and government entities to work together. As developers and transit planners work to reconnect land use and transportation issues, we will see more developments that create great places. In this way transit will be able to serve the community without taking from it.

How can policies be created to help improve the transit decision making process, and can we adjust current policies to perform differently? How can these policies be implemented and accepted by society? How can we find ways in which land use and transportation can be considered in the developmental process and be given equal weight? The answer to this is New Urbanism and the way that

this movement looks at scale of development, from the nation down to individual neighborhoods, buildings, and living spaces.



Scale must be addressed in mass transit, where the flow of individuals goes from one form of transportation to another. Not all stations act the same, and different transportation modes have differing requirements of

their station areas. As transit planners work to implement New Urbanism-friendly plans, these stations can reach their potential to not only serve as functional nodes, but can become great places to be.

The goals of New Urbanism are great, and if these goals can be implemented it can make the places where we live better. But the question is, “can it be done?” As many disciplines work together to think outside-of-the-box and consider all

the options and alternatives, New Urbanism has the potential to change the way we live and move through our cities. As transit planners come to better understand New Urbanism, systems will be more comprehensive, functional, and livable.

**Transit is a single, powerful investment that reinforces healthy patterns, revitalizes by-passed properties, and redirects new developmental patterns.**

## Transit Agencies and Third-Party Cooperative Initiatives

**Edward Lewis**, NAACP Tri-State Conference,  
Salt Lake City, Utah

**Tim Yantos**, Northstar Corridor Development Authority,  
Anoka, Minnesota

**Natashia Holmes**, Metropolitan Planning Council,  
Chicago, Illinois

Transit agencies have begun to partner with third-party institutions to better engage the public on important initiatives. These kinds of partnerships also provide opportunities for non-traditional transportation partners to collaborate on transit solutions.

### Chicago's TRIPS Project

**Natashia Holmes**, Metropolitan Planning Council,  
Chicago, Illinois  
nholmes@metroplanning.org

The Metropolitan Planning Council (MPC), based in Chicago, Illinois, focuses on housing near transit, housing redevelopment, transportation, and urban development. The planning council formed an alliance to create a better way to relay information to the public. The Lakefront Alliance for Transportation Planning was convened at the request of the city to help shape the Lakefront Transportation Study. This study was released in 1997 and was commissioned to provide an analysis of specific issues affecting the Lakefront Transportation Corridor.

While several major recommendations were advocated by the Lakefront Alliance, such as Millennium Park and the McCormick Place Busway, the recommendation of an integrated tourist and traveler information system intrigued committee members and brought to light an opportunity for intergovernmental and interagency cooperation. Partnering with the Convention and Tourism Bureau, the City of Chicago, the Metropolitan Planning Council, and the Regional Transport Authority (RTA), the Lakefront Alliance wants to create a better way to communicate information to the general public through a system of kiosks located in high traffic public areas.

MPC applied for a regional technical assistance program grant from the RTA and secured funds for both project management and consultant services for the development of a demonstration project. The demonstration project brings together real-time transit information with tourist information, attractions, and city events.

The Regional Traveler Information Kiosk (RTIK) Project will display interactive, dynamic, and static information through touch screens in high foot traffic areas. The RTIK project also supports the goals of increased transit use and visitor attraction to the downtown central area. For those traveling, the system can map out a route to take using public transit.

Having the kiosk plan the route is a convenience to the alternative of searching through large matrixes of bus and train stop times.

For those not near a kiosk, the information will also be available online with the same graphic layout as the kiosks. The council hopes that in the near future these kiosks will be multi lingual and be able to sell tickets for various city events.



**Chicago's TRIPS project is placing kiosks throughout the city for easily accessible transit and tourist information.**

*Photo courtesy of Natashia Holmes.*

**In order for project success to be achieved, each partner must fulfill their own commitment to the group.**

In order for the kiosk system to work, each partner needed to contribute information and content for the system. The name TRIPS, or Traveler Resource and Itinerary Planning System, was branded to the system and a recognizable logo was created for easy recognition. Locations were decided through a test matrix that looked for high foot traffic where demand for transit and tourist information would most likely be high.

## Transit Agencies and Third-Party Cooperative Initiatives

Although these sites were picked systematically, the site providers were not contacted till the project was near completion, which was a mistake. This put a hold on the project because without locations verified, TRIPS could not yet be installed. Everyone involved in a project of this kind should be contacted early in the process in order to verify that each piece of the puzzle can be linked together completely.

The kiosks were installed at nine locations, and several locations were used quite heavily, especially at major tourist destinations. Surveys were done to evaluate the project, getting feedback on how the kiosks could better serve the user. The RTA is currently looking at additional locations for further expansion of the TRIPS system. They plan on adding real time information that will notify the user when the next train will be arriving, etc.

The MPC learned valuable lessons from their involvement in the RTIK project. First of all, don't let perfect be the enemy of good. A project or system will never be perfect, and it is more important that the system work together as a whole than every detail be perfect. Don't spend all your time and money trying to get the system to be perfect, but instead focus on making the system comprehensive and complete. A less than perfect system can get valuable feedback that can vastly improve the project.

Secondly, you must adhere to your schedule. Private businesses work on a different schedule than public agencies, and both parties must adhere to the established schedule. Time is money on projects of this kind, and you must respect your partner's commitments.

Lastly, partnerships work when all parties are committed to cooperation. The right partners need to be

brought to the table, and intergovernmental cooperation must also be a high priority. In order for project success to be achieved, each partner must fulfill their own commitment to the group.

### Minneapolis' Northstar Commuter Rail

**Tim Yantos**, Northstar Corridor Development Authority,  
Anoka, Minnesota  
tim.yantos@co.anoka.mn.us

Minnesota has long been a mass transit city. In 1931, the Twin Cities had the best street car system in the nation. Today the Northstar Commuter Rail, which includes commuter rail and light rail, is servicing one of the fastest growing areas in the nation.

The Northstar Corridor stretches 82 miles from St. Cloud to Minneapolis, including urban, suburban and

exurban communities. The first phase of the system is a 40 mile stretch from Big Lake to downtown Minneapolis and meets the FTA threshold for cost-effectiveness. This phase will cost approximately \$265 million, with \$80 million appropriated by Congress in the 2005 SAFTEA-LU legislation.

In 1997 the Northstar Corridor Development Authority (NCDA) was created, with members from 30 governmental jurisdictions,

including cities, townships, counties, and regional railroad authorities. This has created a strong coalition of advocates for commuter rail. NCDA oversees planning, engineering, public involvement, and funding.

NCDA has also worked to develop partnerships in order to promote transit-oriented development (TOD). They published "Station Neighborhood Development Principles and Guidelines" and have hosted TOD workshops with local developers. These developers have needed little incentive to engage in the TOD process, and there is already \$4 billion in TOD currently



**Minneapolis will be adding a new commuter line along an 82-mile corridor from St. Cloud to the Twin Cities.** Photo courtesy of Tim Yantos.



## Transit Agencies and Third-Party Cooperative Initiatives

being developed along the corridor, even without the train in place.

Knowing that the transit lines would encourage TOD style communities, cities have planned ahead and created what they believe will be effective regulations for development.

One of these cities that has embraced TOD is Elk River. They adopted a resolution committing to TOD, and have begun the process of incorporating TOD principles into their comprehensive planning and zoning ordinances. The city approved a TOD project submitted by a partnership of developers, and have zoned other land around the project for future TOD projects. The approved development includes 475 residential units, as well as commercial, retail, and office space. Parking policies were also changed to be more transit supportive. There are ten park areas planned in the development, and plenty of sidewalks to create pedestrian networks.

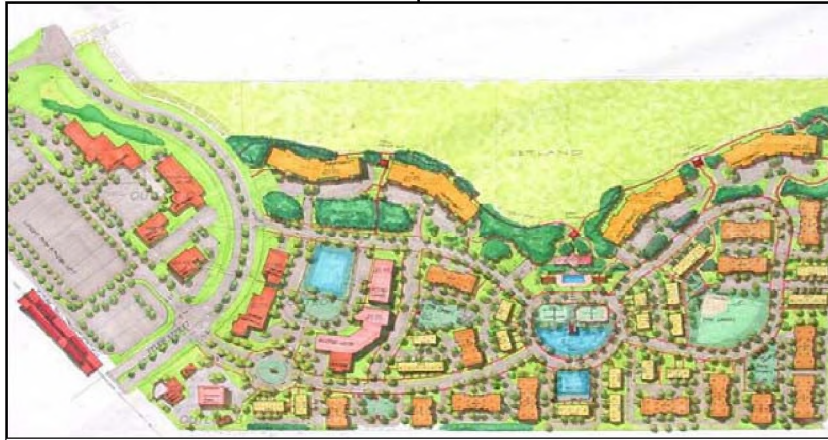
In areas where future rail lines are proposed NCDA is working with the public to educate and involve them in the process. The public was involved in the project through mailings, presentations, and neighborhood meetings. As a demonstration, trains were shipped into

future line neighborhoods so the public could get a preview of the comfort and ease of use.

NCDA's method of involving the public was based on a few simple points. Vision for the project was created to help the public easily understand the large scale idea of the system. Stockholders such as businesses and citizen advocates were identified and contacted early on so they would have a chance to give their input into the project. They also invested in creating grassroots busi-

ness and citizen advocates so the agency wouldn't have to do all the talking.

By being persistent, involving the public, and working with dedicated partners, the project has been a success thus far. The funding is coming online, and the Northstar Commuter Rail is anticipated to be operational in 2008.



**The city of Elk River has planned a large TOD at their Northstar station, including 475 new residential units.** Image courtesy of Tim Yantos.

As transit agencies and third party organizations join together, the public is better informed and more involved with the process of developing and planning their communities. Linking several organizations together in this kind of partnership can achieve what single organizations cannot do on their own.

## Streetcars: It's Not Just LRT Anymore

**Tom Furmaniak**, LTK Engineering Services, Atlanta, Georgia

**Caleb Winter**, TriMet, Portland, Oregon

**Keith Jones**, Central Arkansas Transit Authority,  
North Little Rock, Arkansas

**Thomas Brennan**, Nelson/Nygaard Consulting,  
Portland, Oregon

Streetcars are recapturing the heart of America after fifty years of absence. Planners and city leaders have begun to make significant plans for cities across America. Beyond nostalgia, the growth of interest in streetcar systems shows resurgence in city living and a change in development values. They are now seen as a reliable mobility option, especially for dense urban neighborhoods.

### Streetcar Feasibility

**Thomas Brennan**, Nelson/Nygaard Consulting,  
Portland, Oregon

tbrennan@nelsonnygaard.com

Given the added costs of a streetcar system, the question arises: why not just add buses? For several reasons, streetcars are valued more than bus systems in today's cities. First of all, they tend to accelerate and organize development better than buses. Developers are also more willing to participate in financing of new streetcar infrastructure. Streetcars also offer a legibility to a neighborhood that buses simply can't match. Businesses are attracted to the presence of streetcars, and new users are willing to use streetcars because they don't have to guess which route they need to get to their destination. Also, for communities interested in developing more extensive rail systems, streetcars offer a good introduction to the concept of rail transit for their city.

Streetcars capture an entirely different market than other forms of transportation. Occasional travelers such as shoppers and tourists are attracted to streetcars. Those for whom speed is not a critical factor or the distance of their trip is not great will also be more likely to use a streetcar.

The issue of transit competition also affects streetcar feasibility. Overall ridership tends to grow over time with the addition of a streetcar system. The diversity of connections in a system supports a diverse market base, and services are more efficiently connected with a variety of transit options. Rather than competing with other forms of transit, a streetcar line will attract people to transit services who otherwise would not have considered it.

Depending on market demand, a streetcar system will also spur redevelopment. They tend to catalyze and organize development much more quickly and strongly than bus systems. However, it is essential that market conditions are considered and that the demand for housing and other types of development are assessed. Several American cities that have added streetcar lines have experienced significant redevelopment in the neighborhoods nearest the systems.

Cost is often the deciding factor in the development of streetcar systems. Communities can expect to budget \$12 to \$20 million per mile of streetcar line, which includes the cost of the vehicles. The capital costs of putting in a streetcar line are much higher than a bus system, but significantly lower than a full light rail system. Vehicle choice will also affect the total cost of the system. Modern vehicles are at least twice the price of older, historic cars. The type of vehicle that is chosen will also affect the feel of the project.

**Streetcars are now seen as a reliable mobility option, especially for dense urban neighborhoods.**

When communities decide that a streetcar line would be successful in their city, the question of funding arises. There are many different ways to develop a funding package. In order to encourage local funding, there must be a strong connection between the streetcar line and economic benefit in the area, especially to the landowners along the right-of-way. In order to receive federal funding, communities must determine where the matching funds will come from, and how competitive the project will be in the FTA's "Small Starts" program.

In conclusion, several attributes must exist in order for a community to develop a successful streetcar line.

## Streetcars: It's Not Just LRT Anymore

There must be significant demand for short trips, a connection to the regional transit network, and a mix of uses and markets along the line. Occasional users must have a demand for the system, there must be a desire to accelerate planned development, and property owners in the neighborhood must be willing to contribute to the creation of the system.

### Portland Streetcar

Caleb Winter, TriMet, Portland, Oregon  
WinterC@trimet.org

The Portland Streetcar system was begun in 1990 with the organization of a citizen action committee and feasibility study. The 4.8 mile alignment was opened in 2001, and by 2004 the weekday ridership had reached an average of 5,600 daily boardings.

From the beginning, Portland's transit authority set specific goals for the streetcar system. They wanted to link neighborhoods, integrate the streetcar with existing traffic, attract new transit riders, reduce central city auto trips, and encourage development in the central city around the streetcar neighborhoods.

The streetcar links neighborhoods with a transportation alternative to the private automobile. The alignment begins in the Pearl district of Portland, moves through the central business district, connects to light



**Portland's streetcar has been successful in connecting several neighborhoods with the city's downtown.** Photo courtesy of Caleb Winter.

rail, and continues south to Portland State University and Riverplace Marina. In studying the ridership of the streetcar, it was found that 82% of trips made on the streetcar were by those people living nearby or adjacent to the streetcar. The majority of users were walking to the streetcar, with the average trip being three blocks. The streetcar has very much become a neighborhood amenity.

Streetcar in Portland has been successful in attracting new riders. Upon opening in 2001, an average of 3,800 daily boardings became standard for the streetcar system. While the bus system found a reduction of 600 average daily boardings, there was a net gain of 3,200 boardings for the transit system. Ridership has continued to grow for the TriMet system with the continued extension of the streetcar system. By Spring of 2004 the total daily boardings was 9,700 for the system, an 87% gain over Spring of 2001.

The increase in ridership has also served to level the patterns in daily usage. More than busses or light rail in the Portland area, the streetcar system's ridership patterns are more consistent throughout the day. This demonstrates that the system is being used more for a downtown circulator than a commuter option, and also that new streetcar riders are not riding empty streetcars.

Reducing short inner-city auto trips was another goal set by TriMet. From a survey of streetcar riders, it was found that only 4% of those riding were driving a car to connect to the streetcar line. Nearly 90% were walking to get to the streetcar line, showing that the streetcar itself was not generating new auto trips within the city. When asked how they would get around without the streetcar system, more than half said that they would walk, while more than 30% said that they would use a car. This justifies TriMet's feeling of being successful at reducing a significant number of daily auto trips in Portland's downtown.

TriMet also found that the customer base for streetcar was different from either the light rail or bus systems. More than one-third fall in the 25-34 year-old bracket, and are more likely to be male than female. A majority of riders are Caucasian, and there is a smaller propor-

## Streetcars: It's Not Just LRT Anymore

tion of middle-income users than for the transit system as a whole. Nearly half of the streetcar riders made 30 or more streetcar trips in a month. Nearly half also had a car available but chose to use the streetcar as transportation. Only about 8% of streetcar riders were truly "transit dependent," meaning they had no other transportation options other than the public transportation system. A growing segment of the streetcar users were "voluntarily dependent" on the streetcar. These are riders than choose not to own a car because they prefer transit over a private automobile.

In conclusion, the Portland streetcar line has been successful in achieving some of its overall goals. Ridership continues to climb, and the system continues to grow. The line was extended to the Riverplace development in March of 2005, and construction is underway to continue the line south to another riverfront development, due to open in the summer of 2006.

### Streetcar in Little Rock, Arkansas

Keith Jones, Central Arkansas Transit Authority,  
North Little Rock, Arkansas

The Central Arkansas Transit Authority opened a new streetcar line in Little Rock, Arkansas on November 1, 2004. The line includes 2.5 miles of track with overhead power, eleven stops, and three replica trolley cars. The end cost was about \$8 million per mile, with a total of \$20 million for the whole line. In 2006 an extension is being added to the streetcar line to connect to the Clinton Library.

The new streetcar line has been supported by a great deal of public enthusiasm. In the beginning the project was regarded with a lot of skepticism, spurred on by several negative newspaper articles in the local press. Since opening, the response has been entirely positive, with lots of excellent coverage by the local papers. The public demand for more frequent cars and longer hours of operation has motivated the continuation of the system.

Built as part of a vision for a downtown renaissance, the streetcar has had a significant influence on tourism in the Little Rock area, and has been a great catalyst for connecting the downtown areas of North Little Rock

and Little Rock. The primary anchors of the system are the Alltel Arena, the Convention Center, and the River Market. The added connectivity for these venues has prompted additions and expansions to these areas. The secondary attractions along the streetcar route have also benefited from the new line.

The project began with community input and participatory planning. Officials simply began by walking around to talk to residents and business owners to get their opinions on where and how the streetcar should operate. Funding came from the federal government under the TEA-21 program, with a 20% match from local county funds.

Over \$10 billion has been invested in the last ten years in the areas served by the new streetcar. In the first six months of operation, more than \$80 million in new development has been announced around the new system by private and public entities, including a large new ballpark in North Little Rock, about two blocks from



**Little Rock and North Little Rock are now more connected due to investment in a streetcar line.**

Photo courtesy of Keith Jones.

the new line.

Overall, the system has been a success. Plans are in the works to continue to extend the hours of operation to facilitate commuters in neighborhoods around the streetcar that are quickly redeveloping as "streetcar" neighborhoods. The streetcar has served to continue to strengthen the sense of community throughout the area.

## “BRT-ransit” Oriented Development

**Roderick Diaz**, STV Incorporated, Los Angeles, California

**Maria Rosario**, PB Placemaking, Washington, D.C.

**Alden Raine**, DMJM+Harris Planning,

Boston, Massachusetts

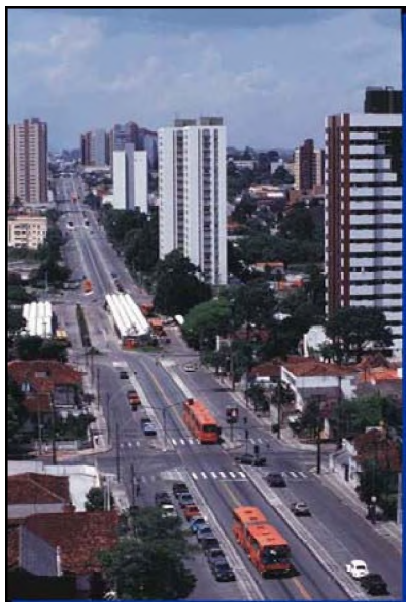
**Jack Gonsalves**, Parsons Brinckerhoff, Portland, Oregon

### Can American Cities Benefit from Curitiba’s Experience?

**Maria Rosario**, PB Placemaking, Washington, D.C.

rosario@pbworld.com

A city of 1.6 million people, Curitiba, Brazil has developed a bus rapid transit (BRT) system without equal. Taking inspiration from other city’s successes, in 1966 a master plan was developed for Curitiba to confront the many issues that the city was facing. The population was growing rapidly, and demand for public services was increasing each year. The master plan essentially steered future development into linear corridors, moving away from the concentrated, radial growth pattern that the city had followed.



**Curitiba’s BRT system has concentrated development around major transportation routes.** Photo courtesy of Maria Rosario.

**Curitiba planned for a diversity of transportation types instead of choosing one that would rule out all others.**

With limited finances, the city chose a BRT system along the major growth corridors to concentrate densities there and preserve low densities in residential districts. The changes to the city have been incremental, happening over many years, but the results have been phenomenal. The master plan com-

bined planning for the street network, land use, and public transportation. Each major corridor had three parallel streets, a central route for BRT, and two parallel streets for cars, one-way streets running in either direction. They planned for a diversity of transportation types instead of choosing one that would rule out all others.

The strategy of using incremental changes has allowed for maximum flexibility in the transit system. Also, by using locally designed projects, solutions for the city’s changing needs have been quick and inexpensive.

As the city boundaries have grown, the bus system has been the catalyst for organizing growth. The transit system has also linked regional administration centers. Each region of the city has “citizenship streets” where needs can be met, such as shopping, official permitting, and medical needs.

The city of Curitiba has based their city’s policies on sustainability and development of community. It attempts to find simple and inexpensive solutions to serious problems and focuses on creating a culture of education and shared responsibility. Their transportation development has focused on developing a larger coverage area, rather than one mode that covers just a small portion of the city. They have found that by focusing higher densities in the city’s growth corridors they are able to retain the quality of life of those who are in lower density neighborhoods.

Many officials from the United States have visited Curitiba to study their bus system. Many of the Federal Transit Administration’s BRT policies are reflective of Curitiba’s Master Plan. It remains to be seen how Curitiba’s successes will affect the transportation planning of America’s cities.

### VIVA TOD!

**Alden Raine**, DMJM+Harris Planning, Boston, Massachusetts  
alden.raine@dmjmharris.com

The new “VIVA” system in the regional municipality of York, Ontario, Canada, is a multi-phase regional transit system, to be used as the backbone of the re-

## “BRT-ransit” Oriented Development

gions “Centres and Corridors” growth plan. The system is composed of four corridors with approximately 60 stations, ultimately connecting to the Toronto subway system.

This BRT system is designed to be convertible to light rail as future demand warrants. The two biggest challenges facing the development of BRT oriented development are selling transit-oriented development (TOD) parties on the strengths of BRT, and secondly, turning the \$1.6 billion into value capture through TOD.

The phased nature of the project allows the development to be incremental and gain public support. Phase 1 of the project is the establishment of a BRT system that doesn’t yet have a fixed guideway, but runs in traffic in curbside lanes. During Phase 2, a dedicated median guideway is built, with a pricetag of \$1.6 billion. At this phase it is anticipated that ridership will double. In Phase 3 the system will be evaluated to determine what kind of market demand has developed for TOD along the corridors. It is during Phase 3 that the decision will be made for which lines should be converted to light rail.

The York region is undergoing some major changes in population and employment. Traffic is getting worse every year, and the commuting pattern is changing. A reverse commute is building out to the suburbs, so demand for transportation investment continues to grow. The dominant housing type is large lot single family development; however, densities are growing. The region is increasingly supportive of TOD, and a few projects are in the works that are getting some publicity.

Cornell, a planned new urbanist community in Markham, was designed by Andres Duany. The devel-

opment is large in scope and is planned as mixed-use with lots of retail and office space along with more housing. Large open tracts of land have made the process simpler in determining what uses will be located in the project.

Four strategies have developed in the regional plan for TOD. The first is improving TOD based planning and zoning. A recent official plan amendment has required local municipalities to update their plans for TOD land uses. Key development areas have been identified and the goal for the region is to see 30% of all population growth happening in built up areas.

The second TOD strategy is the creation of master-planned transit villages. Markham Center is one of these villages, related to the Cornell community of Andres Duany. These villages will be organized around a “transit boulevard” and will make transit a more integral part of the plan. They have changed parking

regulations and eliminated high minimum parking requirements and replaced them with low maximums. Of the parking to be built in these transit villages, two-thirds of the supply must be structured parking.

The third TOD strategy is joint development. Joint development entails that the transit owner has a more direct real estate involvement in cre-

ating TOD. The VIVA plan creates a dedicated development services corporation that is organized by a public-private partnership. Investors are encouraged to contribute to the development process and land-bank areas that have potential for future TOD growth along the BRT line.

The last TOD strategy employed by the VIVA system is tax increment financing, or TIF. While Ontario does



**Markham Center’s transit mall focuses development around specific transit areas.** Photo courtesy of Alden Raine.

## “BRT-ransit” Oriented Development

not yet allow US style TIF, the provincial government will soon consider TIF enabling legislation. The second phase of the BRT network will be funded by local, provincial and federal sources. This allows local groups to fund development of the system on borrowed capital, and allows them to pay it back over time with increased tax revenues due to the capital investment.

While funding and developer interest are still questions to be answered, the VIVA planners are optimistic that the new BRT system will spur development in the region and make



**Springfield Station was planned to become a community hub as well as an element that would focus high density development.** Image courtesy of Jack Gonsalves.

for better-planned communities.

### Eugene-Springfield BRT

Jack Gonsalves, Parsons Brinckerhoff, Portland, Oregon  
gonsalves@pbworld.com

The Eugene-Springfield, Oregon region is developing a BRT system to complement its public transportation system. The Franklin Corridor of the system will include six new stations on a 4-mile starter line, with the downtown transit centers anchoring both ends of the corridor. The Pioneer Parkway BRT line will service eight stations, connecting the new hospital to the transportation system. The developers of this line have used the Springfield Station to influence TOD near the BRT system.

The city of Springfield was interested in making the new station a “place,” not just another transit node. The transit agency had development in mind as they planned the station, and wanted future development to be anchored by the BRT station. In this way, the term is “development-oriented transit” as the transit investment was made to create a newly developed area.

A roundtable meeting was held to involve stakeholders early in the site selection process. A traffic study was done to evaluate the effect on vehicular flow. The city planning department studied circulation issues and revitalization in the downtown area, a housing needs assessment was done, and crime mitigation issues were considered.

After the site was selected, planning for the station area’s adjacent properties was begun. Pedestrian access was given primacy, and future development was given plenty of space to allow for a variety of

choices near the station.

On the station site itself joint tenants were encouraged to come in order to develop more than just a 9-5 presence. Street connectivity to the station was planned, and areas for active interaction were created to add life to the area.

The Springfield Station opened in 2004, and new development has been slowly moving in nearby. The first new commercial building in the city’s downtown core in the past 30 years has been built, and the area continues to grow.

Planners learned that a long-term vision is important in this type of investment planning. Site selection and stakeholder input are also vitally important, and designing the station for the pedestrian as well as the vehicle is essential. Designing the place to be friendly to pedestrians will add ridership. Lastly, it is important to evaluate the market before making capital investments such as this. The market must already have a demand for development in order for the project to be successful. Transit can spur the market to grow in certain ways, but transit cannot create the market on its own.

## Carsharing: Another Transit Connection

**Sharon Feigon**, Center for Neighborhood Technology,  
Chicago, Illinois

**Brendan Nee**, University of California, Berkeley, California

**Matthew Malloy**, Zipcar Corporation,  
Cambridge, Massachusetts

**Steve Gutmann**, Flexcar, Portland, Oregon

Carsharing is a unique transportation option that shares a mutually beneficial relationship with other transit modes in providing the best transportation coverage of an area possible. Consumers that are savvy about transportation costs tend to use carsharing because it is cost-effective for their needs. Though carsharing may not be a viable option for all household types, it has been effective in reducing discretionary trips in a privately-owned vehicle and promises to add to the transportation framework of cities.

Carsharing is a concept that was put into practice first in Europe and more recently in the United States. Though there are some very developed programs on the East and West Coasts, other cities are clamoring to get started with carsharing. Some of the options for carsharing are for-profit organizations like Zipcar and Flexcar.

All programs are membership-based, with fleets of cars that service neighborhoods. Members have smart cards or key fobs that allow them to access cars. Carsharing is generally for non-work trips because members are charged by the hour for use of a car away from its designated parking spot.

Fifty percent of members have given up ownership of a car or have postponed a decision to buy a car after trying carsharing. There is no other transit system that has encouraged people to give up car buying at equal

rates. For this and other reasons, carsharing has the potential to supplement transit options in a way that no other system can.

### ZIPCAR

Matthew Malloy, Zipcar Corporation, Cambridge, Massachusetts  
matt@zipcar.com

Zipcar is the largest carsharing company in North America. It provides cars, vans, and SUVs that people can drive either by the day or by the hour. The charges for Zipcars are \$7.25 an hour, which includes gasoline, insurance, and XM satellite radio. The company provides 20 makes and models of vehicles. The cars are strategically placed to complement other transit options.



Zipcar has an 800 vehicle fleet and has had 55,000 users since its inception. Nationally, it expands its membership base with more than 3000 new members each month.

Zipcar provides solutions for consumers, businesses, students and governments in many ways. Most users save an average of \$430 per month, so many have replaced owning a car with using Zipcar. Car sharing is useful because cars are a depreciating asset, where housing tends to be an appreciating asset. Thus, car sharing an economic development strategy because it allows people to divert more of their assets into home ownership. When replacing fleets, some governments, businesses, and universities have discovered that they could drastically reduce the number of cars necessary. In one case, Zipcar replaced ten fleet cars with two Zipcars.

**Though carsharing may not be a viable option for all household types, it has been effective in reducing discretionary trips in a privately-owned vehicle.**

Zipcar works in tandem with transit. When a person needs to run an errand for which a car would normally be used, it is often

more cost effective to use other transit options and pick up a Zipcar at the transit station. Many governmental organizations have already worked with Zipcar to bring the service into their area.



## Carsharing: Another Transit Connection

Boston's MBTA has worked with Zipcar to provide incentives to businesses in transit-oriented developments to use Zipcar. New York City's Metro North has worked to have Zipcar vehicles located near stations that allow people to go from New York to outlying areas by train, then from the station to other places that require a car. Washington D.C.'s WMATA has begun Zipcar vehicle placement at stations and has even helped launch an XM Satellite Radio partnership with Zipcar. Arlington County, Virginia created a dedicated on-street parking program that provided discounted Zipcar memberships to residents and businesses.

Does Zipcar work to take cars off the road? A recent survey indicated that each Zipcar takes 20 cars off the highway in urban areas and 10 in rural areas. It also showed a significant drop in regular car usage and an increase in transit usage because car sharing locations are commonly placed around transit stops. On-street programs allow people to use Zipcars without feeling unsafe having to go to a garage or alley.

### Flexcar

**Steve Gutmann**, Flexcar, Portland, Oregon  
steve.gutmann@flexcar.com

Located in Portland, Seattle, Washington DC, Los Angeles and San Diego, Flexcar has provided solutions to customers and businesses that price shop for transportation solutions. Flexcar is easy to use. Members use Flexcar by reserving a vehicle online or by telephone. They then go to the vehicle, which is often located at transit stops, unlock the door with a keycard, enter their individualized customer PIN number, and start the car. After making their trip, they return the vehicle in time for the next user. The online reservation system allows people to know which cars will be available and when.

Flexcar provides some specific services to businesses through its Flexvan "Last Mile" shuttles in Portland. The MAX light-rail line operates within a mile of several office parks. For those who work in these office parks, the only solution for getting to work was to own their own car. Running a morning and an evening shuttle to these office parks became too expensive for Tri-Met to provide on its own. For this reason, Tri-Met now contracts with Flexcar to provide a van stationed at the terminus rail stations. Individual companies located at the of-

office parks have a standing reservation Monday through Friday. They have an employee pick up those arriving in the morning, making several trips to the station. During the day, the van stays at the office park and is usable by any employee, often with the stipulation that the van be used only by employees who didn't drive to work. It becomes a regular Flexcar and is usable by members on evenings and weekends. Thus, the car fills three roles – a shuttle, a company car, and a car-share vehicle. Tri-Met finds this a lot less expensive than running a shuttle for a handful of people.

Flexcars rely on co-location with transit options. Nobody uses Flexcar exclusively because most don't live at a carshare location. People go to light-rail stations, parking lots, streetcar stops, and Amtrak & commuter rail stops to get to the car.

Many universities and office parks provide a free Flexcar as an incentive to their faculty, staff, and employees if they don't drive to work. This reduces congestion in campus parking lots, and the cars are paid for through parking revenues.

People often ask how they can get carsharing started in their own community. To start at a new location, roughly a hundred cars used 5-6 hours per day are needed to make a profit. Cities that have outsourced their fleets to Flexcar and therefore don't have to main-



**Zipcar advertising.** Photo courtesy of Matthew Malloy.

## Carsharing: Another Transit Connection

tain them or pay for parking, insurance, or other costs of car ownership may provide a start up grant to get carsharing started. This also reduces the need for parking around government buildings because cars can be used by several different people in the staff during the day and bill the car to their personal account or to the city.

### City CarShare

**Brendan Nee**, University of California, Berkeley, California  
brendan@berkeley.edu

City CarShare has been under the analysis of the Institute Of Urban and Regional Development for three years. It has provided data which has led to some interesting conclusions regarding CarShare's operations in the San Francisco area. Researchers at the Institute determined to find out if members significantly reduced their car usage over time and if this and other factors led to overall travel reduction.

The data indicates some interesting results concerning trip reduction. Three-quarters of surveyed CarShare members were from carless or non-traditional households. When asked how they would have otherwise traveled, only 11% of users of CarShare said they would have used a personal car, and 30% said that they would have forgone the trip.

On the subject of car ownership, the results were just as compelling. Approximately two-thirds of members said they forewent purchasing a new car between March of 2001 and March of 2003, versus approximately two-fifths of the non-member control group. Seventy-three percent of members surveyed reduced their car ownership or opted not to buy a vehicle as compared to 43

percent of non-members surveyed.

One interesting conclusion suggests that since people don't sink a huge startup cost into City CarShare like they do in personal car ownership, they use cars less frequently. It is estimated that 13,000 vehicle miles traveled were eliminated and 750 gallons of gasoline were saved per day through use of City CarShare vehicles in the San Francisco area.

In order for a carsharing system to be developed, there are certain needs that must be met to make the system successful. People use carsharing when they have other options that allow them to leave the car home or to forgo purchasing a car. They have to be able to get to the carshare location to be able to use it. If car ownership is the only way to get anywhere, car ownership is cheaper. If public involvement is high and free parking is allowed or other tax breaks, it is easier to begin carsharing in a city. Members of carsharing organizations use all modes of transportation and are usually very savvy about their transportation options.

For carsharing to work, cities need widespread carsharing support to cover the full area of regular consumer use. For this reason, several profit and non-profit carsharing organizations will probably be necessary in any one city.



Carsharing fills a very specific niche in the transportation market. Without question, there is existing demand for carsharing systems in many of America's cities. Though more data and analysis will be necessary to demonstrate carsharing's effectiveness, it seems carsharing will add to existing cities in a positive way through reduction in discretionary trips, vehicle miles traveled, and new car ownership.

# It's the Last Mile That Makes the Difference

**Lavinia Gordon**, City of Portland, Oregon  
**Todd Boulanger**, Bikestation, Vancouver, Washington  
**Dan Sturges**, WestStart, Boulder, Colorado  
**Eileen Kadesh**, King County Metro Transit Market Development, Seattle, Washington

## Bikestation

**Todd Boulanger**, Bikestation, Vancouver, Washington  
TBoulanger@bikestation.org

Bikestation is a non-profit organization that seeks to improve the quality of life in urban communities through the operation and development of bike transit centers and related infrastructure. It envisions a place where bikes are an integral part of transportation that will bring about cleaner air and healthier living.

Why should we use bikes? The wait for transfers on transit systems can be just as long as the first leg of your trip, so a bike available at a destination station can save you a great deal of time. Also, by using a bike you can increase your destination distance. Using a bike instead of walking can increase your mobility several times over. Transit agencies are interested in bikes because they reduce the need for park and ride infrastructure, which can range from \$5,000 per space for surface parking to \$20,000 per space for structured parking. Transit agencies rarely charge for parking at park and ride lots, so their maintenance costs are not even covered by those who use them. The infrastructure to store and accommodate bikes is significantly less expensive to build and maintain.

Bikestation has established a network of bicycle access points across the country. Starting from the west coast,



there are now several Bikestation locations across the country. At a Bikestation a cyclist can get parts, a parking space, air for the tires, or can rent a bike if they don't own one. People can also become members of Bikestation. Membership brings additional services: 24/7 access to bike lockers, electric scooter rentals, and also provides a guaranteed ride home if you are stranded.

In the United States the smallest Bikestations are about 75 stalls. The large Bikestations in Europe are up to 4000 spaces. In Seattle the station is in an old storefront located near the King Street Station in downtown. In Fruitvale, California, a new community was built near a transit stop, and a Bikestation was included in the overall plan. The new Bikestation in Chicago has showers, a police station, and other amenities



**Long Beach's Bikestation.**

Photo courtesy of Todd Boulanger.

There are several ways to access a Bikestation's locked bicycle areas. Devices to get you into parking can include a key fob, a watch, or a prepaid card that are all electronically enabled to unlock the facility. Systems to secure the station can range from relatively simple and inexpensive for small stations to large computerized systems for the larger stations.

In planning for a Bikestation, its important to remember that not everyone owns a bike, and they may simply want to rent a bike regularly, and will not need storage space for their own bike. Once your Bikestation is opened, remember that people will still park bikes outside where it's free. You have to develop a client base who feels that becoming a member of Bikestation has suf-

## It's the Last Mile That Makes the Difference

ficient benefits to make it worth their money. As biking becomes more convenient and reliable in our cities, Bikestation can fill the needs of those who have chosen this simple and inexpensive transportation mode.

### Seattle's Bikestation

**Eileen Kadesh**, King County Metro Transit Market Development, Seattle, Washington  
eileen.kadesh@metrokc.gov

King County Metro Transit received a grant in 1998 to implement four regional bike stations in the Seattle area. Funding for three was given to local jurisdictions, but King County Metro Transit would implement the downtown Seattle project to be located at King Street Station. This station is the primary connection to Amtrak in the city of Seattle, so the Bikestation was located nearby in order to have a strong connection to the transit system. It was to be a full service bike station, with the other three being satellite stations, primarily providing lockers.

The transit agency's goals were to promote the bicycle/transit link, expand clean mobility options, create a



**Seattle's Bikestation.**

focal point for bicycle commuters, provide secure bicycle storage, and to demonstrate demand for the facility. A consultant was hired to look at demand, alternative sites, and operational structures. The site recommended by the consultant was not politically feasible, so finally they decided there was no ideal public property where the Bikestation could be located. Metro Transit made the decision to lease retail space in a small storefront near the King Street Station, close to Seattle's sports stadiums, on the southern edge of downtown.

WestStart was the project's primary funder, contrib-

uting \$425,000. The remaining funds for the project came from local sources.

Metro Transit paid for three years of rent, movable tenant improvements, and marketing. WestStart paid for facility improvements that couldn't be moved, electric vehicles, other technology, and for the facility launch and management. WestStart was the primary contractor in the first two years. Bikestation became the primary contractor during the third year.

The first year of Seattle's bike station didn't go very smoothly. In order to operate electric bikes they needed to get a city ordinance changed, which took a year to complete. By the time they had the electric bikes and scooters in the station, they never seemed to work correctly, which was a disappointment. The first facility operator was also a bad fit for the Bikestation operation. After a year the operator was changed.

During the first year the number of bicycles parked at the Bikestation was five to seven per day. Today the daily total is up to 40, but the membership total has never met expectations. It's free to park there during daytime hours, so there's no need to become a member unless you need to park when the station is closed. Today's membership total is only 137, which is below projected estimates.

A survey was conducted in September 2004 by King County Metro Transit's research group. Over 66% of respondents reported that they biked more often due to Bikestation, and over half used public transportation as part of their trip. Furthermore, 43% said they previously drove alone.

Now that it has been in operation for two years, they are in the midst of transitioning the facility from King County being the lease holder, to a more sustainable model with a local organization holding the lease. Having a local organization at the forefront will be more of a focal point for area commuters.

Metro Transit has learned some valuable lessons in developing a bike station for the Seattle area. First of all, they learned that local bicycle organizations need to have "ownership" of the project. The Bikestation co-

## It's the Last Mile That Makes the Difference

aliation did not have a local presence in the area, which proved to be a problem.

They also learned that the station needs to have a sustainable source of revenue for its ongoing operations. It was tiring to have to continue to go after grants in order to keep the facility open. The station needs to be self-funding so that the need for public subsidy can be minimized.

Also, the right location is paramount. The Bikestation may have provided services, but many bicyclists felt that it should have been located on the north end of Seattle's downtown, where more people were commuting to. However, Metro Transit chose the location because of its proximity to transit, and the link with transit would have been lost if it were located in the north end of downtown. A planned redevelopment in the neighborhood has not taken place yet, and that development will increase the connections of the present Bikestation location.

Bikestations will be a growing phenomenon in the Seattle area, but there is plenty to learn about forming them. The provided services are highly valued by customers, but it takes a few years for a customer base to take shape. Ultimately the mix of services that can be provided by a Bikestation is open to your imagination. The operating organization can sponsor workshops, serve as a meeting place for bike clubs, and provide bike maps and other resources. Experience has shown that bike use can increase use of transit, and as the Bikestation concept catches on, Metro Transit hopes that more and more people will have the choice of using alternative transportation modes in the Seattle region.

### Improving Transportation Networks

Dan Sturges, WestStart, Boulder, Colorado  
Dsturges@weststart.org

In the United States today we are developing a greater need to connect several modes of transportation more effectively. To do this we need additional local infrastructure in place. So far in America the only concept of multimodalism we have is at the airport, where you leave your car and get on a plane. With the increased

focus on multimodalism inside our communities, more options will become available for daily use.

Our country today is solidly unimodal. We make all of our plans to fit with the needs of the privately owned personal automobile. Private automobiles are used for all trips, regardless of their suitability for such a trip. They are useful and convenient for many uses, but are expensive to operate and maintain when we could be using another, more appropriate mode of transportation.

We can compare an automobile to a chainsaw. You may use a chainsaw to cut down a tree outside, a purpose they are suited to. However, you wouldn't think of taking that chainsaw inside to cut your steak at the dinner table. In the same way, we are using our cars for every transportation need we have. We use the car to go 80 mph for long distances or to haul things from place to place, but we also use it to go down the street to the market or for other short trips. A lot of people are addicted to their cars, and have no other option but to continue using them. Smaller powered vehicles will make it easier for people to drive their automobile less.

We are going to start seeing people that commute to a consistent place using their own small electric vehicle to connect to transit systems. These vehicles are smaller, less expensive, and more energy efficient than automobiles. While they are not for everybody, there is a large population in the United States that would use this type of transportation given the choice.

There are two kinds of American cities as they relate to transit. In America's "thick cities" you can take transit and get off in a place where there are lots of buildings with lots of floors where you can reach many doors very quickly. These are cities such as New York, Chicago, and Los Angeles. In our "thin cities" the same density is not present, and transit is not particularly suited to these city's daily function. In cities like Phoenix or Denver, there is only 3% of the population using transit. When you get off the transit system there is simply not the same number of destinations in close proximity to the station. In order to reach your destination you may have to walk quite a distance. People just

## It's the Last Mile That Makes the Difference

don't have the time to walk 15 minutes to get where they need to go. Small powered vehicles can make this kind of transit system more useable to those trying to get around.

One reason why we haven't seen these small vehicles in wider use is because we don't have space for them. Cities have streets and sidewalks, but no place for smaller vehicles to go. As our cities see this as a viable transportation solution, more and more infrastructure will be built to house and facilitate this kind of vehicle. Time magazine has reported that car sharing is about to explode in our nation, and small vehicles could connect suburban homes to car sharing locations, greatly adding to the appeal of car sharing.

The more people become involved in this mode of transportation, the more the system will be useful. At this stage in many American cities, small powered vehicles and car sharing systems are similar to the first fax machines. Who bought the first fax machine? Without someone else owning a fax machine, your machine

is useless. Similarly, until more people buy into this mode, it will be difficult for those who do to operate. However, once a large population is committed to car sharing systems and small vehicle use, the benefits will spread across a wider and wider group of people.



Packaging alternative transportation modes have a huge economic benefit to families. This will be the biggest attraction, rather than gloomy forecasts

of melting icecaps and bleaching coral reefs. Saving \$20,000 in car payments over a few years, and many times that over a lifetime, will translate into greater quality of life for many Americans.

A network of transportation and digital technology will continue to help with the creation of a more convenient transit system. When people begin to realize the economic benefits of alternate modes of transportation, and as they become more convenient, a vast shift in local priorities will take place, and more and more people will be willing to step out of their cars and enter into a multimodal world.

# Environments That Support Walking to Day-to-Day Destinations

**Laura Brennan Ramirez**, Inneval, St. Louis, Missouri  
**Jonathan Amburgey**, University of Utah, Salt Lake City, Utah  
**Kelvin Walsh**, Maribyrnong City Council, Mairbyrnong, Australia  
**Rich Cassidy**, City of Portland, Oregon  
**Nancy Stevens**, Kaiser Permanente, Portland, Oregon

Physically inactive lifestyles are now a major health concern in the United States. A root cause of inactivity is the layout and design of the communities we inhabit. Poor urban design in our cities discourages walking to destinations, and induces obesity in our populace. Urban designers today have found that there are health benefits to well designed communities that encourage walking. Those who live in “walkable” communities report that they walk more and drive less than those in other neighborhoods. Living in these types of communities has a positive impact on air quality in our cities, and there are individual health benefits to those who choose to walk in these neighborhoods, including modest weight control and reduced risk of cardiovascular disease.

In designing a community for walkability, it is essential that three environmental factors be considered: density, diversity, and design. In order for a resident of that community to have the option of walking, they must feel safe (design), have a destination (diversity), and be able to reach it in a reasonable distance (density). The principles of new urbanism have assumed that urban design will influence behavior, but there are few studies to date that directly address the specifics of such design influences.

## Walkability Study

**Jonathan Amburgey**, University of Utah, Salt Lake City, Utah  
jonathan.amburgey@psych.utah.edu

A study was organized in 2005 to identify environmental features that most influence an individual’s phe-

nomological experiences in urban settings. Participants were asked to rate their experiences during a guide walk through the Gateway district of Salt Lake City, Utah. A scaled measure was used to evaluate each segment of the walk, and participants recorded their experiences with tape recorders that were provided.

During the guided walk, three specific segments were considered: a pedestrian-friendly area, a pedestrian-unfriendly area, and a mixed-pedestrian area. The pedestrian -friendly area was clean, well maintained, with plenty of signage, public spaces, vegetation, variation in pavement types, and other amenities geared specifically to pedestrians. The pedestrian-unfriendly area was characterized by sparse vegetation, obstructed views, a few underground parking exits, and close proximity to quickly moving traffic. The pedestrian-mixed area had small park areas, adequate sidewalks, poorly maintained parking areas, bare open space, and was close to auto traffic.

**In designing a community for walkability, it is essential that three environmental factors be considered: density, diversity, and design.**

Organizers of the study predicted that participants would have a more positive attitude towards areas that were pedestrian-friendly in design, and a negative attitude to the areas that were more hostile to pedestrians. Participants were asked to answer questions after their walking tour that rated two primary factors of their experience: traffic safety and positive atmosphere. They were asked to rate their feeling of safety while walking and while crossing the street, as well as the friendliness of the atmosphere of the place and the general quality of the social environment.

They found that the participants of the study identified environmental design features as positive influences on the quality of their walk, and did indeed have more positive attitudes toward the pedestrian-friendly area. The general social environment was ranked higher for the pedestrian mixed area than for either of the other two study areas.

It was also found that the participants had more positive opinions of the pedestrian-unfriendly area in regards to traffic safety. This may potentially be linked to proximity of traffic to the pedestrian areas. In the area classified as pedestrian-friendly, automobile traf-

## Environments That Support Walking to Day-to-Day Destinations

fic was much closer to the sidewalk, but was moving at a much reduced speed. In the areas termed pedestrian-unfriendly, the traffic was much faster, but was more dispersed and at a significant distance from the sidewalk.

In conclusion, the study organizers found that environmental design features have a direct effect on the quality of experience in a place. A more in-depth study in this area will produce great benefit for the future of city planning and design. Additional research is needed in this area, and methodological refinements will need to be made in order to make the study more scientifically based. The participants of this study were composed of 26 undergraduate students from the University of Utah, 73% female, and 26% male. A subsequent study is planned with similar methods, made up of 47 undergraduate students from the University with a smaller differing gender ratio.

### Footscray Transit City

Kelvin Walsh, Maribyrnong City Council,  
Mairbyrnong, Australia  
kelvin.walsh@maribymong.vic.gov.au

Within the Melbourne, Australia metropolitan region lies the city of Maribyrnong, home to 60,000 residents. Maribyrnong has a diverse population with 60 distinct languages spoken in the city, and more than 35% of the city's residents are culturally or linguistically diverse.

The primary commercial area of Maribyrnong is known as Footscray, a fairly low level suburban commercial center. Primarily known for its farmer's market and restaurants, the area has been in decline since the 1980's due to the proliferation of suburban malls. Footscray is a highly walkable area, with the busiest railway station outside

of central Melbourne found in the center of the community. There is also a fixed guideway streetcar in Footscray, as well as a bus system. Many of the civic buildings for the city of Melbourne are found here.

During the "(re)Visioning Footscray" process, the community was involved in deciding what they wanted the city to be like in the future. The diversity of the population made this process quite challenging, and the feedback given was equally complex. In the end, community residents expressed the desire to have a city with a core identity and image that was safe, diverse, and well-designed.

As part of this revisioning process, an urban design framework was developed. This framework is intended to give guidance to those involved in public and private sector improvements. Civic improvement funds will be spent to aid those who are in keeping with the principles of the urban design framework. A specific legislative program was also developed in order to see that the guidelines are implemented to make the Footscray area into what the residents wish it to become.

Civic improvements in the area were begun at the only open green space in the development, a place called Maddern Square. Currently underutilized, plans were

developed to improve the quality of the square in order to make it a new meeting place. During this process, a team of property advisors were engaged to work with the city and the property owners in order to develop the square in accordance with the new urban design framework.



**The city of Footscray is working towards improved walkability around its transit hub.** Photo courtesy of Kelvin Walsh, City of Footscray.

Several programs support the city's plan for the area by involving community members in the issues of their neighborhoods. "Green travel plans" have been developed in order to help reduce car dependency in Footscray and to en-



## Environments That Support Walking to Day-to-Day Destinations

courage alternative forms of transportation. Developers are encouraged to include infrastructure in their developments that will support cycling, walking, and public transportation in order to decrease the need for an automobile in order to get around the city.

Another innovative program seeks to address issues of rising rates of childhood obesity, as well as increasing crime against children. A “walking school bus” has been organized in the area that allows children to be able to walk to school, but keeps them safe from traffic or other dangers. Parent “drivers” walk a designated route to the local school each day, picking up children at specific stops. Together with a “conductor” parent who follows behind, the walking school bus makes its way to school as a group, keeping the children safe.

“Finding Footscray, Footscray Found,” is a program designed to get business owners and community members involved in the overall viability of the center. A progressive dinner was held with groups of 20 walking from restaurant to restaurant throughout the center of Footscray. This has helped to raise awareness of the great variety of restaurants found in the center of Footscray. Perception of nighttime safety in the center has been a challenge for the city, and it is hoped that this program has helped residents feel that the area is safe to walk through at night.

The city of Maribyrnong has found that an essential part of the redevelopment of their central commercial core has been their working with community members directly. It is key that residents of the area feel that they are involved in any new decisions made about their community. Also, you need a comprehensive approach to the redevelopment so that incremental changes are

not piecemeal, but are part of an overarching plan for the entire community. And finally, local governments cannot deliver it all to the community, but are in need of significant support of regional and state governments both in areas of policy and capital funding.

### Portland’s “Ten Toes Express”

Rich Cassidy, City of Portland, Oregon

Nancy Stevens, Kaiser Permanente, Portland, Oregon

rich.cassidy@pdxtrans.org

In 2004 the City of Portland Office of Transportation began a walking campaign called “Ten Toes Express” with an EPA outreach grant. This campaign was begun in conjunction with the opening of a third light rail line in the Portland area. With additional support from the Kaiser Permanente corporation, the Ten Toes program wanted to increase the use of walking as a transportation choice, most specifically for short trips.

The city also wanted to increase awareness of the health benefits of walking, and used the slogan “Walking for short trips is a great transportation option that benefits your health, too!”

The program has originally targeted 13,000 households that live in close proximity to the new LRT line. The area is mostly composed of older neighborhoods, with not much commercial development. A partnership was formed with Kaiser Permanente, a health insurance provider, which has a large corporate campus located in the target area, and employs many of the community’s residents.

All 13,000 homes were contacted by direct mail, notifying them of the new program, and offering a free walking kit, contingent upon completion of a survey



**Walking kits containing maps, a walking log, coupons, and a pedometer were distributed as part of Portland’s Ten Toe Express” program.** Photo courtesy of Rich Cassidy.

## Environments That Support Walking to Day-to-Day Destinations

about their walking habits. The kits sent out to those who completed the survey included a pedometer (donated by Kaiser Permanente), a walking log, and offers for a free wellness exam. Resources that were included in the walking kit included a walking map for the area around the light rail line, and a wellness brochure. Recipients were also notified about escorted walks and rides to be held during the summer. Coupon books for local businesses were also included, encouraging people to get out to explore their community's businesses.

Guided walking tours were held on Thursday evenings and Saturday mornings from June to October. The response to this part of the program was great, and most of the participants on the walks said later that the walks helped them discover new neighborhoods, new parks, and new businesses, and that they also met new people. They also reported that they increased the number of trips they took by foot each week.

Kaiser Permanente's interest in the program has focused on increasing the level of activity in the gen-

eral population. They have developed a campaign for their policy holders, as well as those in the Ten Toes area called "Thrive," encouraging everyone to live more actively. They hope that the Ten Toes program

will encourage everyone to increase pedestrian trips and improve their general health. The "Thrive" campaign has included sending out flyers and brochures about the benefits of physical activity, as well as cooking classes, walks, and other "hands-on" elements. Their goal for the campaign is to have a walking map for every neighborhood in the Portland area, that residents can use as a resource. This campaign has worked well in conjunction with



**Community walks were organized to encourage more walking trips and to help citizens discover new neighborhoods in the Portland area.** Photo courtesy of Rich Cassidy.

the Ten Toes program.

During the second year of the Ten Toes Express, 2005, the variety of guided walks has increased. A "Pup Crawl" was held, encouraging participants to bring their dog along, as well as a sketchbook walk, sponsored by a local art supply store. An architectural heritage group also became involved and held a historical homes tour. In all, over 3,400 kits have been distributed, and the program has been hailed as a success in the Portland area.

---

# Planning Policy

# Removing Obstacles to TOD and Smart Growth

**Jeff Tumlin**, Nelson/Nygaard Consulting Associates,  
San Francisco, California  
[jtumlin@nelsonnygaard.com](mailto:jtumlin@nelsonnygaard.com)

Those building transit-oriented development in the United States today must overcome many serious obstacles written into city codes. Community regulations are set up for the “public good,” but they end up preventing the building of livable and desirable communities. In fact, in virtually every American city it would be illegal to rebuild our favorite, most iconic neighborhoods if they were to burn down.

Despite the obstacles facing those who want to build TOD, somewhere in the country there is at least one municipality that has developed a solution to each one; however, there is no city that has brought all these solutions together in one comprehensive TOD policy. TOD will not be able to make the in roads that those promoting it would like until comprehensive solutions are implemented.

Probably the biggest problem facing development of TOD is parking and traffic code. The principle fear prompting current parking regulations is that of parking spillover into existing neighborhoods. In order to reduce NIMBY (“not in my backyard”) arguments, parking codes require much more parking than TOD projects actually need, adding significantly to the overall cost of the project.

A few strategies to address parking issues include adjusting codes based on local conditions, abolishing parking minimums, and establishing maximums.

Most parking requirements are based on the two busiest shopping days of the year, not on what we actually live with for the rest of the year. By reducing parking supplies to more manageable levels we incentivize transit use and promote development that won’t add to current congestion problems.

Pasadena, California has changed its parking codes and has seen a strong revitalization in its downtown core. When businesses began to complain about a lack of parking, the city didn’t invest in added parking infrastructure, but began to charge for parking. Businesses protested at first, fearing that people would no



**Downtown Pasadena has been revitalized due to changes in parking policies.** Photo courtesy of Jeffrey Tumlin.

longer come downtown if they had to pay for parking. The city dedicated all parking funds to downtown improvements, adding street furniture, lighting, trees, and street cleaning. The change in the downtown area has drawn more people than ever into the downtown, but the parking pricing ensures that there is always parking available.

Building codes are another obstacle facing TOD. Many cities rely on the Building Official and Code Administration (BOCA) which sets minimum requirements for materials and methods of construction, addresses loads and stresses, fire protection, special uses, lighting and ventilation, and means of egress. These requirements actually prevent the renovation of old buildings and encourage demolition through code requirements. Many existing buildings are built to earlier code requirements and are still safe, but may not meet current code. By requiring them to meet current codes that are the “ideals” in new construction, developers shy away from renovation projects due to additional

**Community regulations are set up for the “public good,” but they end up preventing the building of livable and desirable communities.**

## Removing Obstacles to TOD and Smart Growth

costs and risks. A possible solution would be to create a separate renovation code that would make renovated buildings safe, but would be less costly to those interested in improving downtown areas that have existing structures. This would reduce the number of vacant and abandoned buildings in older neighborhoods.

Another frustration to TOD development is the Uniform Fire Code. Some emergency officials have addressed concerns with “smart street” designs that allow narrower streets, smaller intersections and shorter curve radii. It’s important to understand that this is not a law, merely a code created by the Western Fire Chiefs Association. The UFC requires that there be 20’ clear between parked cars at all points, which basically eliminates many “smart street” concepts.

The fire code issue basically comes down to what we view as a priority. The intent of the fire code is to preserve public safety, but as street widths increase, the number of auto-related injuries and deaths also increase. For every person that is killed in a fire, more than eleven die in traffic crashes, and for every person injured in a fire, 148 are injured in traffic accidents. The question becomes, are wider streets or lower fatalities more important to us as a community?

Oregon is a great leader when it comes to fire codes. The government can supercede the fire code to allow for safer streets. Some solutions would be to allow for more fire routes. In sprawl type developments there is only one route to a fire, and if that is blocked then the fire department has no way to reach it. In smart growth areas the streets may be more narrow, but there are several alternatives to reach the fire.

The Clean Water Act is emerging as a big issue in development projects. This requires the states to set and then achieve Total Maximum Daily Load limits, limiting total pollution into each body of water. The problem comes when state and/or local requirements discourage infill development. They want the lower

density and sprawl rather than infill and higher density. Building more densely increases storm water runoff as there are fewer permeable surfaces to absorb water. This approach looks at watersheds on a minis-

cule scale, when we should be looking at regional runoff issues. A more densely developed area may have a higher percentage of impermeable surfaces, but the runoff per household is much less compared to the lower density neighbor-

hoods that the Clean Water Act seems to support.

Next, is the Fair Housing Act and other disability law. If a building has 4 or more units and built after 1991, then all units and all public and common areas must be wheelchair accessible. Courtyard housing, arguably one of the most livable types of dense housing development, is virtually illegal due to these regulations. If all housing must be wheelchair accessible, the only types of housing that can be built are ranch houses and corridor-loaded apartments.

A partial solution is to design a development in such a way that ground floor housing is accessible with no-step entries. An elevator can be installed in some buildings to increase the number of accessible units. In projects with significant grade change, the front of the housing units can allow for grade change with several steps while the rear can have a no-step entry from a garage.

State school standards are also creating problems with smart growth developments. In the interest of keeping our students active we have moved schools out to the perimeter of our cities where land is available. In this way all students are required to drive or be driven to school, as schools are no longer accessible by foot or by bike. Current state standards require that high schools have at least thirty acres of land for every 100 students. This increases vehicle trips and reduces the activity level of our children.

Ways to solve these problems would be eliminating acreage standards, encouraging state laws that provide



## Removing Obstacles to TOD and Smart Growth

funding for renovations and maintenance, and opening lines of communication between land use, transportation, and the school planning office. Another solution is to promote smaller schools, which not only has land use benefits, but many educational benefits as well.

Congestion Management Systems requirements are another TOD obstacle. CMS require that roadways be designated for a specific purpose, establishing standards for transit frequency. They focus on short range congestion goals and not on longer term traffic generating land use issues. They tend to force development to areas with no major traffic impacts such as greenfields sites far from city centers.

The state of California passed a bill in 2002 that created “infill opportunity zones” that would surround transit stops with frequent service. These zones are exempt from traffic standards as set by congestion management systems, which will enhance the walkability of the area, promoting transit use.

Zoning and subdivision codes are a major obstacle that developers face every day. The intent of conventional zoning is to limit height and density, segregate uses, require setbacks, and provide ample free parking. These zoning requirements have given us the unmanageable and unlivable cities that we have today. TOD is not available “as of right.” Our cities should be making quality development much easier than sprawl projects, but the opposite is true in most communities.

A popular solution to current zoning code problems is to develop form-based codes, rather than use-based codes. Several towns in California have adopted form-based codes, which show what the development must look like, rather than describing uses that are forbid-

den. Neighbors are highly supportive of form based codes because they can see what new developments will look like.



**Street regulations make some of the country’s most loved streets illegal, such as this street in Chico, California.** Image courtesy of Jeffrey Tumlin.

Street design codes are another obstacle to TOD. These codes, such as the AASHTO Green Book, provide fairly flexible standards with street design. It helps provide different rules to different situations. Many cities require that highway standards be applied to all road construction, done in the name of public safety. However, driver behavior

on urban streets is entirely different from highway driver behavior. We should be designing our city streets to encourage lower speeds, faster driver reaction times, and to improve pedestrian safety. Several groups are currently working on a publication entitled “Context Sensitive Design Solutions for Major Urban Thoroughfares” to address street design code issues.

Street typologies and performance measures are another challenge. The problems lie with the language that is used in the codes. Street typologies are currently labeled as “arterial,” “collector,” and “local,” only as they fulfill auto needs, to the exclusion of all other uses. Street performance should also be measured according to pedestrian demand and retail use. Transit networks should be prioritized according to existing demand, defining each street according to the specifics of the neighborhood. Each street is given a functional code, which determines the quality of each mode’s service on that street. Depending on demands for that road, you can determine which mode should be prioritized and how much you can inconvenience the other modes of transportation.

Impact fees are another challenge. They can be a powerful tool for encouraging and discouraging development

## Removing Obstacles to TOD and Smart Growth

and raising funds for smart growth improvements. One of the problems with fees is that in many cities they are only used to widen streets which in return will increase traffic. Projects that favor transit and don't have the same traffic impact as traditional projects are charged the same impact fee as if they had the same demand on congested infrastructure. Palo Alto, California has revised their impact fee policy to include investment in transit projects and other community improvements. It has raised its fee rate to more than \$6,000 per peak hour vehicle trip created by the project. It is estimated that these impact fees will raise \$27 million over 22 years.

Lastly, environmental compliance is a large issue when planning a new TOD project. Every environmental regulation has great intentions, but the outcomes are not always truly environmentally beneficial. The only consideration that an environmental impact statement

focuses on is auto congestion generation, which must be reduced at all costs according to environmental policy. According to these policies, the widening of a road is good for the environment, but adding a bike lane to that road, which would decrease road capacity, is bad for the environment. Oregon has no statewide environmental analysis requirement, but each city is required to have an "urban growth boundary" which focuses growth and prevents sprawling developments, minimizing impacts on the regional ecosystem.



Communities need to look at themselves and find ways in which their policies improve or reduce the quality of life of their citizens. These issues need to be looked at individually and taken into consideration when planning for smart growth. As cities develop ways to overcome these challenges, growth will be more sustainable, environmentally friendly, and developmentally responsible.

## Effective Advocacy Strategies

**Stephanie Vance**, Center for Transportation Excellence, Washington, D.C.  
vance@advocacyguru.com

Strategies that advocates use to communicate with elected officials must be effective in order to lead to desired results. Meetings, site visits, written materials, and campaigns should be thoughtful, personal, persistent, relevant, and specific in order to communicate most effectively the importance of the project.

Over 10,000 bills are introduced in a typical two-year congressional session, but only about five percent of these bills actually pass. Since so few bills actually become law, it is essential that those advocating for public transportation investment understand how they can best help their political leaders understand the importance of their cause.

What factors influence elected officials? Most public officials are motivated by some notion of “the public good,” even if they define that notion differently than each of us might. Consider the degree to which we are influenced by our spouses or significant others. Likewise, family, friends, staff members, and colleagues exert an enormous influence on public officials. Money does not play as big a role in the individual decisions of elected officials as many people think it does.

Constituency connection is a factor that is often overlooked, and the first filter applied to an issue raised by advocates is frequently the question, “Are they from my district?” In a representative democracy, each representative in the House represents between 650,000 and 700,000 people. Constituents are the most important influence because these are the people that they have an obligation to represent.

## Great Meetings

The average meeting with an elected official last 7.5 minutes, so knowing how to communicate your message quickly and clearly is vital to seeing ideas through to action.

First, advocates must ask questions of their elected officials to get their interest and attention. If you ask them for something specific, it forces them to think about your issue rather than tuning you out. Do not go into a meeting to educate a representative about your issue. Have an “ask,” even if that “ask” merely involves a relationship building action rather than a commitment to policy. Asking for action engages your representative by requiring him or her to make a decision. This could be a request to write or sign an article for your organization’s newsletter, or a request to put a statement on the congressional record, both of which will make it more difficult for them to neglect the issue when policy decisions arise.

Next, you must consider with whom you are talking and why they should listen to you. Do you live, work or serve people in their districts? What issues has he or she publicly advocated in the past? Can your issue be presented in a way that links it to one or more of those issues? For example, if he or she is focused on technology, emphasize transportation technology such as GPS systems or new bus or train technology. If healthcare is a focus, emphasize the relationship between transportation and obesity. If they care about environmental issues, focus on air pollution. You can easily find information on your representative’s pet issues by researching their past bill proposals and voting records.

Third, consider how you will ask. It is important to note that while facts are important, they are often less compelling than what you or they care about. Your message should be personal, persistent, relevant, thoughtful, and specific (e.g., “let’s reduce this tax,” rather than, “let’s pay less in taxes”). Letters with these qualities are the ones that tend to make it to a repre-

**“Nothing in the world can take the place of persistence....The slogan “Press On” has solved, and will always solve, the problems of the human race.”**

**Calvin Coolidge**



## Effective Advocacy Strategies

representative's desk. Once this happens, the letter's writer is more likely to be listened to when they contact that representative in the future.

Finally, following up is as important as the meeting itself. It is unlikely that one meeting will result in meaningful action, so it is important to find ways to communicate with representatives and their staff members about your issue on an ongoing basis. Only by being passionate and persistent about the issue can you get results.

### Great Site Visits

Site visits should incorporate many of the same components as meetings. They inherently involve a specific "ask" in the form of an invitation to public officials, staff members, the business community, and even critics. If you choose to invite the media, other invitees should be told in advance.

The fact your visit is presumably to a local site immediately makes it relevant and personal, but there are ways to enhance these qualities. As you sketch a plan of the site visit, if you have something exciting or interesting, show them that. A representative who loves technology can be put behind the wheel of a new bus or light rail car. The things that you work with every day may be new and exciting to your local official. You will need to consider all imaginable relevant logistics, such as transportation to and from the site, food, photo opportunities, and inclement weather plans. As with a meeting, follow-up requires persistence. Once the invitation has been sent, you can expect to make several phone calls and fax a copy of the invitation numerous times.

### Great Written Materials

Written materials should be personal, relevant, thoughtful, and specific. They should also be no more than two pages in length. Public officials and their staffs tend to be short on both time and office space. This fact makes having a web component especially important so that interested parties can explore your issue further. Again, asking for a specific outcome is important. When you deliver written materials to a represen-

tative, you should politely ask for a response.

### Great Campaigns

Campaigns should not try to reach everyone. They should be personal and specific if they are to achieve a particular advocacy goal. Important questions are, "Am I asking businesses, voters, coalitions, or someone else to do something? What am I asking them to do?" It may be worth targeting supporters in the interest of forming coalitions, but some of the opposition will be unreachable. Resources are better spent on trying to convince those who are undecided as opposed to those who are firmly against the action.

In planning campaigns, research both the positives and negatives about your idea, as you will be more persuasive for having considered both. When you have done this, you will communicate in a well-informed and unbiased way, giving you the opportunity to become a trusted local expert on the issue. Your plan should also include a budget, timeline, and marketing strategy, as well as plans to make revisions following implementation.

### Working with Staff

The public official's staff is often the first and most frequent contact that advocates will make. They are usually young and they are generalists. While this can sometimes be a frustration, it is also an opportunity. To become a trusted resource and earn a place in their "mental Rolodex," it is vital to present the issue in a balanced way, addressing controversy as well as your issue's obvious strengths. It means that you are the expert, and can become their trusted resource for future information on the issue. Staff can strongly influence the representatives for whom they work, and they should never be written off or underestimated.

In conclusion, it is essential that all dealings with government officials be well-planned and directed. In order for them to take action, they need to understand what the issue is, and they need to know what their responsibility is. You must be persistent and respectful in order to help your representative help you achieve your aim.

# Transit-Oriented Development Performance Measures

**Gail Murray**, San Francisco Bay Area Rapid Transit District, Oakland, California

**John DeLaurentiis**, Regional Transportation Authority of Northeastern Illinois, Chicago, Illinois

**Cali Gorewitz**, Reconnecting America, Oakland, California

**Elizabeth Deakin**, University of California, Berkeley, California

## Benchmarking TOD

**Elizabeth Deakin**, University of California, Berkeley, California  
edeakin@uclink.berkeley.edu

The term “transit-oriented development” has been used to refer to many things. TOD varies with region size, physical characteristics, number of centers, and type of TOD being developed. The type of TOD that is used in a regional center is not the same that would be appropriate for a small town.

There is a huge and growing literature about TOD, but it is academically disappointing because it is anecdotal, unsystematic, based on a limited number of cases, lacks detail, and is mostly promotional. Thus, the task at hand is to identify and monitor the factors affecting the success of TOD. However, in order to do so we must first create a set of metrics to use to determine project success. This will allow the Federal Transit Administration to develop a set of procedures and metrics to be used when evaluating petitions for funding from FTA’s “New Starts” program. There are currently eight cities involved in the New Starts program: Portland, Phoenix, Minneapolis, Charlotte, Baltimore, San Diego, Sacramento, and San Francisco.

During a 2005 roundtable on TOD, it was revealed that development patterns over a half-mile radius were more significant than over a quarter mile radius. It was

also found that the number of users required in order for each station to be cost effective varied based on the regional location of the station, the local context, and the station’s relation to other stations. An uninterrupted network of pedestrian paths and well managed parking and traffic calming are also necessary to ensure that the critically important pedestrian access would work. Things like being able to bring bikes on transit may be critical. It was suggested that in order to compete with the car as a commuting mode, transit should be made smart, easy, and comfortable. Transit should be made time and cost competitive with the automobile, making route arrangement very important.

When creating TOD, it is best to look for suitable existing development. It is not sufficient to have just a few buildings nearby or a few buildings with a parking lot. A whole neighborhood is required. For TOD to work, there needs to be both an access plan and a land development plan. The land development plan should include a market assessment and should give you some idea about whether the TOD will be successful. However, the value of a market assessment is somewhat limited in the case of TOD, because market assessments typically cover no more than five years, while TOD build-out covers 10-20 years. The specific mix of uses will create an attractive environment that will attract occupants and produce substantial rider ship.

**For TOD to work, there needs to be both an access plan and a land development plan.**



Part of the research is intended to determine if TOD is a good investment for the state. Is it supported as being financially viable by literature review and data analysis? In order to make the capital investment in a transit system cost effective,

the associated development must have the density or activity to generate the requisite ridership the system needs. For less capital-intensive systems, such as BRT, you do not need such expensive development.

Housing advocates like transit. However, affordable housing is not always a major issue to cities when considering TOD. It is not urgently supported because af-

## Transit-Oriented Development Performance Measures

fordable housing is perceived as imposing a high cost in social services on the community. Other arguments for TOD include the desire to save open space by reducing sprawl and the size of the development footprint, an argument that will resonate with economists and tax groups.

As specific metrics are established to evaluate the success of TOD projects, developers and municipalities will become more adept at planning TOD correctly from the beginning. A great deal of planning is required to complete a TOD project, and in order to make this time worthwhile there must be standards for performance set to ensure that this time is spent in resolving the most important issues.

### RTAP Performance Measures

**John DeLaurentiis**, Regional Transportation Authority of Northeastern Illinois, Chicago, Illinois  
delaurentiisj@rtachicago.org

As communities increasingly seek to strengthen the viability of their traditional downtowns, a new awareness of the value of commuter rail service and stations has emerged. Formerly viewed as the sole responsibility of the operating entities, many towns have begun to view their commuter rail assets as downtown redevelopment engines. Over the last decade, this new awareness of TOD has been used to encourage residential and commercial development near transit facilities.

Through its Regional Technical Assistance Program (RTAP), the Northeastern Illinois Regional Transportation Authority (RTA) has been a leader in TOD, typically providing 50% of the funding for the TOD study, with local government providing the balance. The program encourages communities to undertake a balanced, coordinated and integrated approach to community and transportation planning. This is accomplished, in part, through technical and financial assistance provided by the RTA to the various levels of local governments. A hallmark of the program is its emphasis on providing communities with the tools to identify their vision and a plan to attain it.

RTAP's TOD planning process is similar to traditional downtown redevelopment planning efforts. The pro-

cess includes the assessment of the existing conditions, extensive citizen participation, and an analysis of how much increased density is acceptable and desirable. An aggressive implementation effort follows the completion of the TOD study, with property acquisition, demolition, and redevelopment.

Community vision is essential. This includes a clear understanding of local values regarding community character, aesthetics, and business attraction and retention. Consistent with the "transit village" principles, activities emphasize improved public safety, pedestrian and bike access, and shopping opportunities for commuters.

Through RTAP, communities pursue an integrated approach to transit and land use planning. A typical TOD project requires a local community to act as a facilitator between related interests such as the rail operator, landowners, commuters, merchants, and developers. With an eye towards beneficial improvement, an overarching goal for both the public and private sectors, the community's primary objective is to assist, motivate, and support activities that enhance the attractiveness of its transit assets.

These plans and projects are designed to address local conditions and meet varying community objectives, including integrating transit facilities into the fabric of the community. Local transit improvement projects similarly focus on transit-supportive land uses relative to bus operations or the development of new local transit services, such as reverse-commute oriented shuttle bus services and community circulators. A hallmark of the program is its emphasis on providing communities with the tools to identify their vision and then create plans to attain that vision.

Initial public sector investment centered on the immediate station area is critical, but from that point onward to implementation, the principal drivers of redevelopment come from the private sector. With some exceptions, in the Chicago area this TOD pattern most often occurs in turn-of-the-century suburbs and large satellite towns with traditional historic town centers or established industrial service sites along existing commuter rail lines. We call these traditional TODs "rail

## Transit-Oriented Development Performance Measures

stations in search of a community.”

Conversely, communities are primarily project protagonists. We call these “communities in search of a rail station” because of their ability to spur development. Most often driven by “Baby Boom Auto Oriented Suburbs” they are also attractive strategies for economically depressed communities. These types of TOD typically require substantial public sector investment.

Station Area Planning projects have been designed to address local conditions and meet varying community objectives. For example, at greenfield sites, studies produced plans to guide new complementary development. Others with established town centers seek plans to promote and direct redevelopment of their station areas. Regardless of the location, the basic tenets of transit supportive development, mixed uses, higher densities, and pedestrian friendly environments are encouraged, often resulting in complimentary improvements and enhancements to the community’s transit facilities.

Regardless of location and conditions, the basic tenets of transit-supportive development, such as mixed uses, higher densities, and pedestrian friendly environments are encouraged, in order to spur complementary improvements to the community’s transit facilities.

The RTAP program has been very successful with over 40 community based projects completed and about 20 more underway or in the planning process. Over the 7 year life of the program, about \$8 million has been committed from a variety of funding sources. Likewise, everyone agrees that the program has created value.

There are 3 fundamental questions that must be addressed before we can make any conclusions about the impacts of transit-oriented development (TOD): The first question is what is TOD really? Is it richness of a particular location? Is it the number of coffee shops, the price of a new townhouse, or the percentage of

streets with brick sidewalks and decorative lighting? Is it just the concentration of a variety of trip generators within a certain number of square blocks?

The second question deals with point of view or point of reference. Are we talking about the impact of TOD on the transit system, or the impact on the community? What about developers and land owners? Transit impacts could include higher utilization or improved financial performance. Community impacts could include a better quality of life or increased sales taxes. Are we measuring impacts from the local perspective, or from a broader regional perspective?

The third question is to define an appropriate metric for the impacts. If we decide to measure the impacts on transit, are we simply measuring the number of passengers boarding from a certain station, or are we looking for net gains in the number of places that are accessible by transit? If we decide to measure the impacts on the community, how can we determine the highest and best use of available land? And how do we know whether more parking spaces are a good thing or a bad thing?

At a minimum, TOD is a tool for manipulating usage of particular transit stations, but is it more or less effective than constructing large park-and-ride lots near transit stations – another tool for manipulating transit usage? TOD certainly creates some new places that are accessible by transit, but only the largest TOD’s are major activity centers that draw people from beyond the immediate community. We must continue

to establish evaluation criteria to determine the success of these projects.

### Making the Case for TOD

**Cali Gorewitz**, Reconnecting America, Oakland, California  
cgorewitz@reconnectingamerica.org

Transit and transit-oriented development are essential parts of the toolkit for healthy metropolitan economies and improved quality of life. Several converging trends



## Transit-Oriented Development Performance Measures

are currently supporting the development of TOD.

The first trend is the resurgence of investment in America's downtowns. Urban centers are once again seen as attractive, lively places in which to live and work, and as hubs of intellectual and creative capacity. The second, and equally powerful trend is the continuing growth and emerging maturity of America's suburbs, many of which are struggling to become cities in their own right. The third trend is a renewed interest in rail travel and rail investment. Virtually every major city in America is planning some form of urban rail or busway system.

The fourth is changing demographics that are resulting in a need for more diversification of real estate products, and the type of development known variously as transit villages or transit-oriented development is receiving attention in markets as diverse as the San Francisco Bay Area, suburban New Jersey, Atlanta and Chicago.

TOD can offer a new range of development patterns for households, businesses, towns and cities. It is an alternative that provides choice not only in transportation modes but also, more fundamentally, in lifestyle. Transit can also generate investment. For example the Dallas light rail system has generated \$800 million in development, \$3.7 billion in economic activity and 32,000 jobs. In Portland there has been over \$2.4 billion in new investment next to MAX stations.

One of the challenges to creating successful TOD is that there is little if any meaningful information or systematic analyses available today to help transit agencies, local governments, or developers consistently create optimal transit-oriented projects. It is only when successful projects are easily recognized and routinely produced that TOD will begin to provide a real and

effective alternative to auto-oriented mobility and to create a lasting positive impact on regional economies in ways that address social inequities and improve environmental quality. The primary challenge is to move

beyond the rhetoric, prototypes, and serendipity to a more in-depth understanding of what constitutes optimal TOD and of how to get such projects built as a matter of course rather than as the exception.

It's important to start with a performance based definition of TOD. The term transit-oriented development should be reserved to refer to projects that achieve five main goals:

1. Increases location efficiency or the conscious placement of homes in proximity to transit systems.
2. Expands mobility, shopping, and housing choices making communities more convenient and affordable.
3. Creates substantial financial return and value capture.
4. Creates places for people, enriches the existing neighborhood, works with the landscape, weaves together different uses and forms and is flexible enough to respond to future changes in use, lifestyle and demography.
5. Resolves the tension between the role of a transit station or stop as "node" in a regional transportation network and the station's role as a "place" in a neighborhood.

Performance measures can be defined as either hard or soft. Hard measures are more tangible and easily measured. They include density, street and transit connectivity, non-auto commute, transit ridership trends, and development statistics. Soft measures are less tangible and include process, level of use, vibrancy of place, measures of walking and biking, relationship to open space, governmental policies, and accessibility.



**Virginia's Rosslyn Ballston area.**

Photo courtesy of Cali Gorewitz.

## Transit-Oriented Development Performance Measures

In the book “The New Transit Town,” Dennis Leach wrote a case study measuring the performance of the Rosslyn-Ballston Transit Corridor in Arlington County Virginia. By using both hard and soft performance measures, Leach provides a compelling story of how Arlington County used the new Metrorail system as a catalyst for redevelopment of commercial space and concentrated development at five station areas.

The Rosslyn-Ballston corridor demonstrates that it is possible to live in the suburbs, close to transit and not own a car. Forty-seven percent of the residents of Arlington County who live within one-half mile of a Metro station use transit to get to work and seventy-three percent of transit riders walk to those stations. Transit ridership in the corridor is higher than anywhere else in the region after the District of Columbia. Car ownership rates near Arlington County’s stations are much lower than in the region as a whole, and it seems to be by choice, as average household income is higher than the regional average. Most remarkable is that all this development has generated only modest levels of additional traffic on local streets. Furthermore, property tax revenues from the high density transit-oriented development help pay for amenities, services, and better connectivity for the surrounding single-family neighborhoods.

In making the case for TOD at a local level, elected officials, local government staff, members of citizen review bodies, residents, and business owners could benefit from documentation of how TOD actually performs across a range of measures. To date, there is little material on TOD beyond the realm of architectural design.

In an effort to expand on the performance measures used in the Rosslyn-Ballston case study, the Center for Transit-Oriented Development is currently writing

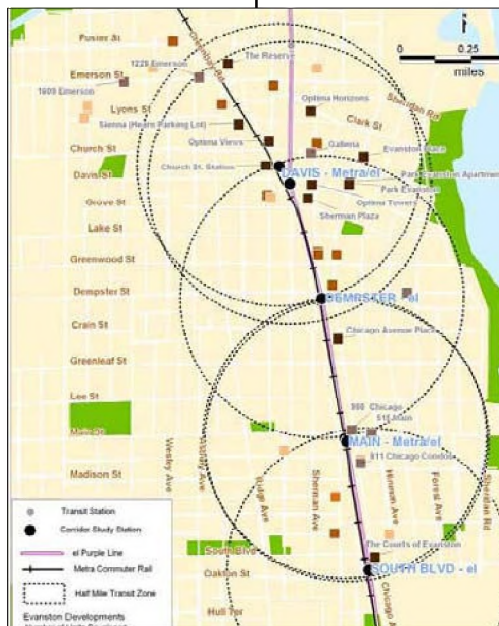
two additional case studies funded by the Environmental Protection Agency. The two case studies focus on documenting the general characteristics for transit-oriented developments that have been in place or are currently under active development. The focus of the study is the Chicago Transportation Authority (CTA) elevated line corridor in Evanston, Illinois, as well as the Hudson Bergen Light Rail Line in Jersey City and Hoboken, New Jersey.

The Evanston METRA/CTA Corridor tells the story of a mature suburban city that utilized transit-oriented development to spur growth and development around 100 year old transit stations. The Hudson-Bergen Light Rail is a compelling case because it is a new transit system that emerged as a response to growing redevelopment and in turn spurred more transit oriented development including brownfield redevelopment.

Evanston, a northern suburb of Chicago, lays adjacent to Lake Michigan and is approximately 7.8 square miles. No part of the city is more than 2 miles from a rail station. There are three METRA Commuter rail stations and seven CTA elevated stations in Evanston. However, because METRA and CTA stations are adjacent in two

locations, at Main and Davis, there are only four “station areas” considered in this study. The three mile corridor studied stretches from the Chicago-Evanston border to downtown Evanston.

Through its 1986 Comprehensive Planning Process, the city of Evanston set about to reverse decades of decline by revitalizing its downtown and neighborhoods along the two remaining train lines. The city set a goal to remake its downtown into a “24/7” center with transit-oriented development as a key component of the strategy. In addition to the plans and studies, the city used federal funds to promote TOD by building a mixed-use transportation center. The transportation center became the 12th largest hub in the region with



**Evanston Illinois transit corridor.**

Photo courtesy of Cali Gorewitz.

## Transit-Oriented Development Performance Measures

more than one million passengers per year.

The city revamped their zoning ordinance to allow for density bonuses, more height, and a higher floor area ratio (FAR) at the transit stations, among other changes to commercial and residential development. Between 1990 and 2005, Evanston added more than 2,500 housing units in the transit zones, and between 1990 and 2000 the population in the study corridor increased by 6 percent compared to 1.4 percent in the city overall. The city has also been able to consistently lower its tax rate to its current rate of \$8.96 per \$100.

Forty-one percent now commute in Evanston by non-auto means compared to 21 percent in the other suburban metro area transit zones. METRA ridership has increased between 60 percent and 155 percent, and most riders walk or bike to the stations. Vehicle ownership in the transit zones is now much lower than in the rest of the city. Some of the new developments have high parking ratios and garage entrances next to the transit facilities, essentially turning their backs on transit, these buildings are more transit-adjacent than they are transit-oriented.

The second study focuses on Hudson and Bergen County including Jersey City and Hoboken. These cities are located in Northern New Jersey, along the Hudson River directly across from Manhattan. The Hudson-Bergen Light Rail will have a total of 32 stations and is expected to be completed in winter 2005. The case study focuses on the 9th Street Station in Hoboken and the Essex Street, Marin Boulevard, and Jersey Avenue stations in Jersey City.

In 1980, after years of neglect and abandonment, Jersey City and Hoboken started to redevelop, spurred by interest from developers and residents. To meet this interest, New Jersey created urban enterprise zones and redevelopment zones and offered tax incentives, bonuses and subsidies to lure prospective businesses and residents. Demand for less expensive housing continued to grow, and developers rehabilitated and subdivided brownstones into condos as well as converted industrial sites into mixed use neighborhoods.

At the same time, the renewal of a strong public bus,

rail, and ferry system supported commuters and further development. By 1990 the New Jersey Hudson River waterfront was booming and was known as the “Gold Coast.” Unfortunately, the transportation infrastructure did not match the needs of the new residents and workers. New Jersey Transit met those needs by entering into a Design, Build, Operate and Maintain agreement with 21st Century Rail Corporation to create the Hudson-Bergen Light Rail Line. In 2000, the first phase of the line opened.

The majority of funding came from the federal “New Starts” program and the state transportation trust fund. The new light rail has spurred brownfield redevelopment and also new development due to demand for high quality of life communities with mass transportation to the urban core. Between 2000 and 2005, more than four thousand new housing units were built in the four transit zones, with thousands more being planned.

Property values have jumped since the redevelopment began. Single lots offered in the past for \$100,000 are now \$800,000. Developers claim that properties within transit zones have doubled in the last year. Hoboken’s growth has been faster than any other city in the region. Ridership numbers at the four stations are up 30 percent from 2003.

There are many challenges to measuring TOD performance. TOD requires the participation of many actors and often occurs in a fragmented regulatory environment. In most cases, tracking information is no one’s responsibility. There are a lack of definitions and standards for developers, cities, and transit agencies which makes differentiating between transit-adjacent and transit-oriented development difficult.

In conclusion, if communities had better information about performance, they could make more informed decisions about their future and shift from a reactive stance to one of proactive community building. The Center for Transit-Oriented Development is continually attempting to figure out how to deal with the soft measures and other performance measures that may be missing in order to tell the full story of transit oriented development.

# Tearing Down the Barriers to TOD

**Julie Hoover**, Parsons Brinckerhoff, New York, New York  
**Marc Guichard**, Metro, Portland, Oregon  
**Stephen Antupit**, Seattle Housing Authority, Seattle, Washington  
**Ned Thomas**, City of North Las Vegas, Nevada

Many of the principles used in transit-oriented development (TOD) do not coincide with current zoning regulations. Governments are being persuaded to change zoning codes to accommodate this new form of development. TOD includes “European style” housing that is dense with minimal building setbacks and pedestrian friendly design.

## North Las Vegas: Planning for Transit

Ned Thomas, City of North Las Vegas, Nevada  
ethomas@wmata.com

The city of North Las Vegas, Nevada has plans to build mass transit on its North 5th Street corridor in order to facilitate future growth. Some of the barriers planners have run into include auto-oriented zoning, commercial parking requirements, existing neighborhood forms, and the intense desert climate of the Las Vegas area.

North Las Vegas is the second fastest growing city in the United States, growing at 1,200 new residents per month. As new residents move in, transportation demand continues to grow. With the population growing as it is, there is a great need for quality growth, considering the price of an acre of land in Las Vegas is currently \$500,000.

TOD gives people the opportunity to choose from a variety of mixed housing where transportation access is a primary concern.

The North 5th Street corridor is projected to provide access to a new university campus and a hospital.

Developers in the region are against TOD development, primarily because it costs more than assembly line development. People are also worried about the security of TOD and how safe people will be that live near those locations. The perception is that most of the people that use public transit are low income, and that these neighborhoods would have higher than average crime rates.

**People are beginning to understand that TOD works at decreasing pollution, congestion, and creates neighborhoods rather than subdivisions.**

Current trends favor TOD as land prices get higher and fewer households have children. People are beginning to understand that TOD works at decreasing pollution, congestion, and creates neighborhoods rather than subdivisions. Many people believe that planners want to put TODs everywhere, which is not the case. TOD is only created around transit and therefore there will still be areas where single family housing will be more appropriate.

There have been four alternatives proposed for the North 5th Street corridor, and all of them require zoning codes to be changed. TOD needs zoning to allow higher densities, commercial mixed with residential area, and height and mass restrictions changed. All of these zoning changes will create a community that is walkable and more pedestrian friendly.



**North Las Vegas' plan for their new transit line includes distinct development districts.**

Image courtesy Ned Thomas

## Barriers to TOD

Stephen Antupit, Seattle Housing Authority, Seattle, Washington  
stephen@othellostation.com

In 2003, the Seattle Housing Authority used the neighborhoods of Holly Park and Othello Station, and their proximity to Seattle as a major marketing tool. For one



## Tearing Down the Barriers to TOD

of the ads, a distance map showed the time it takes to get from one place to the next to show the accessibility of Holly and Othello by way of public transit. Design plans were also used to promote the tight-knit neighborhoods that showcase new urbanism and multi-family housing.

The Seattle Times published a news article on the rebirth of Holly Park and Othello Station, indicating that these new developments were built for mixed-income, not as a low-income housing project. Businesses began seeing the potential for growth and bought large plots of land around the communities. Pieces of land around the communities were zoned for retail in hope that companies would be persuaded to build near these new urbanized transit-oriented developments.

The message to all was to keep an eye on what was happening in Holly and Othello. Large billboards displayed maps and made the neighborhoods appear successful and neighborly. Changing the communities from low-income into mixed-income was done by breaking through the barriers that limited mixed-use lands and zoning that was designed for auto-oriented developments. Zoning had to be changed to fit new design guidelines that would allow housing to be interconnected. The key factors in Holly and Othello's success were purchasing land when it was on the decline, creating a new constituency to build the economy, marketing the advantages of TOD, and bringing in new retail to the area.



### Breaking Through the Barriers

Marc Guichard, Metro, Portland, Oregon  
guichardm@metro.dst.or.us

Due to the fact that most public transportation is centered in the heart of a city, that is also where most TOD developments will be located. A study analyzed the metro area of Portland, Oregon in order to discover which areas people were willing to pay more for housing in. Many residents figured the center of town was the most in demand, but the study showed that a ring of desired housing around the perimeter of the city had the highest demand. As prices for land continue to rise, developers are forced to build up rather than out. It is more cost effective for them to build housing with a higher density per acre.

The most desirable pieces of property are within a half mile of public transit, making TOD a perfect resolution for growth in housing and transportation. Driving till you qualify is not necessarily true. Even though you may qualify for a house, this doesn't mean you can afford the transportation costs associated with the location of the home. TOD implementers in the Portland area have designed a procedure that increases developer's certainty and lowers the risks by buying land and then selling it to developers with enforced development agreements.

Working with developers to create transit-oriented development is key. When creating a TOD, some of the key planners are political leaders that finalize decisions on zoning ordinances and land use. Resources and public services must be planned to facilitate new residential areas. Gaining the trust of political leaders that make decisions for city planning can give planners an advantage in getting funding and influencing leaders to work in your favor.

## Gaining Leverage from FTA's "New Starts" Land-Use Criteria

**Diana Mendes**, DMJM+Harris, Fairfax, Virginia

**Brigid Hynes-Cherin**, Federal Transit Administration, Washington, D.C.

**Michael Allegra**, Utah Transit Authority, Salt Lake City, Utah

**Otis Rolley**, Baltimore Department of Planning, Baltimore, Maryland

**Marty Baker**, Baltimore Department of Planning, Baltimore, Maryland

### FTA Ratings

**Brigid Hynes-Cherin**, Federal Transit Administration, Washington, D.C.

[brigid.hynes-cherin@fta.dot.gov](mailto:brigid.hynes-cherin@fta.dot.gov)

The Federal Transportation Agency's use of a rating system to determine qualification for funding has prompted many cities to pursue better understanding of the ratings in order to find ways to increase their funding. The "SAFETEA-LU" legislation of 2005 required that land use policies be evaluated to determine approval for major capital grants from the federal government. Prior to SAFETEA-LU, land use was only a "consideration" under the TEA-21 legislation. In addition, the economic development benefits of the project are evaluated as part of the justification criteria.

The land use rating a city is given is divided equally into three categories: existing land use, transit supportive plans and policies, and past performance of the system as well as potential impact of the project.

Land use ratings are determined by a number of factors. Quantity and locations of population and employment centers are the first consideration. Development characteristics are analyzed, as well as the level of pedestrian accessibility for the system.

Transit supportive plans and policies make up one-third of the rating. The FTA looks at regional efforts to manage growth, concentrating development around established centers and conserving open land. Corridor growth policies are also analyzed, as well as station

area zoning. Outreach and collaboration with other agencies and developers are also important for this rating.

The last third of the rating is determined by past performance and future impacts of new system investment. The amount of development proposed and built in the past influences the past performance rating. Potential impacts are rated by the adaptability of station area land for development and future economic growth along the corridor.

Several cities in the United States have strongly established urban corridors, and thus have a high FTA rating. These cities include New York, Boston, and Chicago, among others. In the past few years several cities have been actively working to increase their rating in order to qualify for future FTA funding.

The Minneapolis/St. Paul region has been able to increase their rating by five points with their Hiawatha Line. They have developed growth management plans that support transit-oriented development (TOD) throughout the region, and have made TOD zoning along the new line part of the Minneapolis comprehensive plan. They have also created master plans for all stations, which includes plans to reduce the land devoted to parking at each station. Their new investment policies are crafted to foster station development that is pedestrian oriented. By creating a public involvement initiative they have also been able to prevent controversy with most of the new developments.

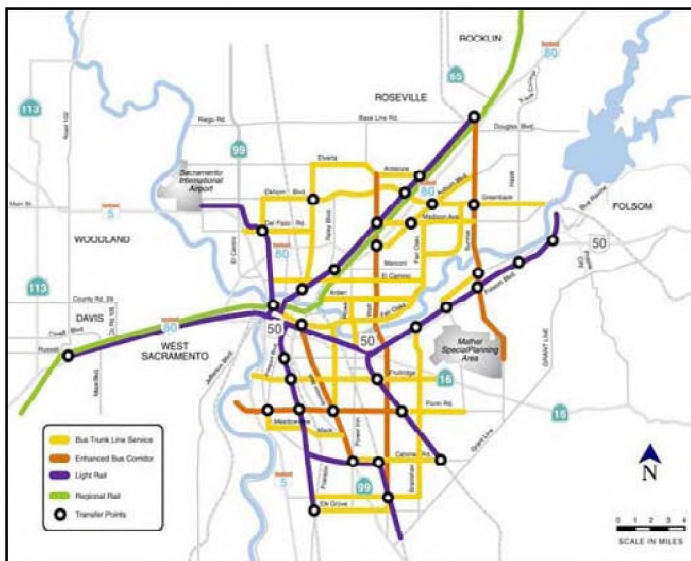
Sacramento has improved their rating by five points with Phase II of their South Line. They created a "Preferred BLUEPRINT Scenario for 2050," a regional growth management plan that is based on smart growth principles. This plan focuses on transportation choices, mixed use development patterns, and quality design. Sacramento has also developed a "Transit for Livable Communities Project" that highlights the development opportunities at new stations. They were also able to create transit supportive zoning overlays at the new station locations that includes pedestrian accessibility and new housing projects.

**The land use rating a city is given is divided equally into three categories: existing land use, transit supportive plans and policies, and past performance of the system.**

## Gaining Leverage from FTA's "New Start" Land-Use Criteria

The Dulles Corridor of Metrorail in Fairfax County, Virginia has increased their rating by two points. The Fairfax County Comprehensive Plan was changed in 2003 to include allowances for higher densities, mix of uses, and changes on the pedestrian scale to make their policies more transit-supportive. The state of Virginia also provided funding in 2000 to hire a full-time land use planner for the project. This, along with their outreach programs to collaborate with county planners, residents, and developers, has improved their overall FTA rating.

Salt Lake City has improved their rating with their new University Line from downtown Salt Lake to the University of Utah. They improved by one point for their changes in zoning, allowing for increases in density in station areas, especially focusing on the central business district and east downtown areas.



**Sacramento gained points in FTA's rating system by implementing transit supportive corridor policies.** Photo courtesy of Brigid Hynes-Cherin.

The FTA has faced several challenges with its use of a land use rating. They have tried to create a measure that is less subjective and more quantitative. They have been challenged to incorporate regional market forces into the ratings system. They also have tried to be consistent with the application of the ratings criteria across the country, making it more clear to cities why awards were or were not made.

The Urban Land Institute made a few suggestions to the FTA to address challenges in land use ratings. They suggested that the bar be raised for requirements, thus reducing the number of "medium" ratings in the system. Additionally, it was suggested that instead of dividing the weight of each rating equally into thirds that the FTA weigh each section differently, giving more weight to the plans and policy side of the system. Use of simpler station types was also recommended, with differing criteria for each type of station, understanding that each station type would act differently from the others. Lastly, they also suggested that land use consideration be encouraged earlier in the planning process.

Given these recommendations, the FTA has proposed future revisions to their evaluation framework. The new framework will focus on development potential, transit supportive policies, development climate, and transit accessibility. These criteria will more closely analyze the future benefit that will be potentially possible with the investment of capital. The benefit to the development of the local economy will be addressed, as well as the benefit to the user of the new system additions. It is hoped that these changes will make the FTA rating system more clear to cities seeking federal funding and motivate them to make their communities more livable for their citizens.

### Utah Transit Authority

**Michael Allegra**, Utah Transit Authority, Salt Lake City, Utah  
mallegra@uta.cog.ut.us

In the last five years, the Salt Lake metropolitan region has experienced rapid growth in its transportation systems. With many stakeholders involved in the decision making process, the Utah Transit Authority (UTA) has changed its goals and aspirations in order to better address the needs of the communities that it serves.

The UTA serves as the public transit district agency for over 1400 square miles in the Wasatch Front region. Carrying over 34 million passengers each year, the UTA system has continued to expand with the strong population growth of the region. In recent years, UTA has built three light rail projects, taking a significant number of cars off the road. With the addition of these

## Gaining Leverage from FTA's "New Start" Land-Use Criteria

lines, ridership has grown at a faster rate than vehicle miles traveled for the region.

Good fiscal partners have been essential to the recent successes of UTA. The City of Salt Lake contributed \$20 million for downtown enhancements around the North/South TRAX light rail line. On the University TRAX project the city and the LDS Church together contributed \$1.6 million, and the State Legislature provided a guarantee of \$5 million for 10 years.

Other partnerships have also been important to UTA in recent years. The Envision Utah partnership brought in many stakeholders and helped the public become involved in the visioning process. Envision Utah has also helped to generate enthusiasm about transportation planning issues throughout the region.

Envision Utah has been instrumental in promoting quality growth strategies throughout the Wasatch Front region. They have organized collaboration among many levels of government to analyze various scenarios of the region's growth pattern twenty and thirty years from today. In these meetings rail transit was strongly supported by all groups, and everyone saw the need for a balanced system. Findings from a series of workshops found that participants preferred greater population numbers in infill areas as opposed to new expansion on the periphery. Nearly all participants also indicated that they wanted only minimal development in the "Wasatch Back," instead preserving it for recreational use.

UTA has worked with Envision Utah to develop responses to these issues and to incorporate policies that will support quality growth along their transportation system. UTA now analyzes development potential prior to major projects to encourage new developments that will support added ridership. They work with local governments to develop special TOD zoning districts around transportation lines.

Using the new FTA criteria, UTA has developed new

policies to encourage development that is more transit-supportive. These policies focus on developing ridership and enhancing the effectiveness of any new transit projects. Overall, the new FTA criteria are affecting the way new projects around the region are developing and are helping UTA achieve their transit goals for the region.

### Baltimore

**Otis Rolley**, Baltimore Department of Planning, Baltimore, Maryland

**Marty Baker**, Baltimore Department of Planning, Baltimore, Maryland

The Baltimore region has been seeing steady growth for many decades, and has seen a particularly strong surge in developer interest in the past 5 years. Although Baltimore's strength is due in no small measure to its strategic location among many of the great East Coast cities, Baltimore provides a unique identity and strong job center that serves as the region's core strength. This core, after decline in recent decades, has been showing renewed strength in recent years.

Leaders in the area increasingly recognize that developing their fledgling transit system may prove critical to securing the region's competitiveness in the global market. In 2002, citizens from around the Baltimore metropolitan area identified a first-rate regional rail system as a key action agenda item. By roughly doubling the system length that

currently exists in the city, it's been estimated that the system could support and connect well over 114,000 new jobs and more than 34,000 new housing units.



The FTA New Starts process is critical to achieving this vision. FTA's land use criteria can make a big difference in the overall project justification rating. The planning department has been vigorously leveraging this insight to improve Baltimore's transit-supportive land use planning efforts. Three factors have been implemented to make the city more transit-oriented: processes, projects and partnerships.

Baltimore leaders have highlighted two priority proj-

## Gaining Leverage from FTA's "New Start" Land-Use Criteria

ects, the Red Line, which would provide for the city's first real east-west rapid transit connection, and the "Green Line" which would extend the existing metro line to connect neighborhoods to the northeast.

By reaching into under-served areas and providing stronger connections to existing transit options, it is expected that these two projects will go a long way towards developing transit as an integrated system for Baltimore.

The Red Line has been the first project to move forward. The planning department has been directly involved in the analysis process, and they have successfully leveraged the land use criteria in terms of analyzing alignment alternatives and possible street configurations.

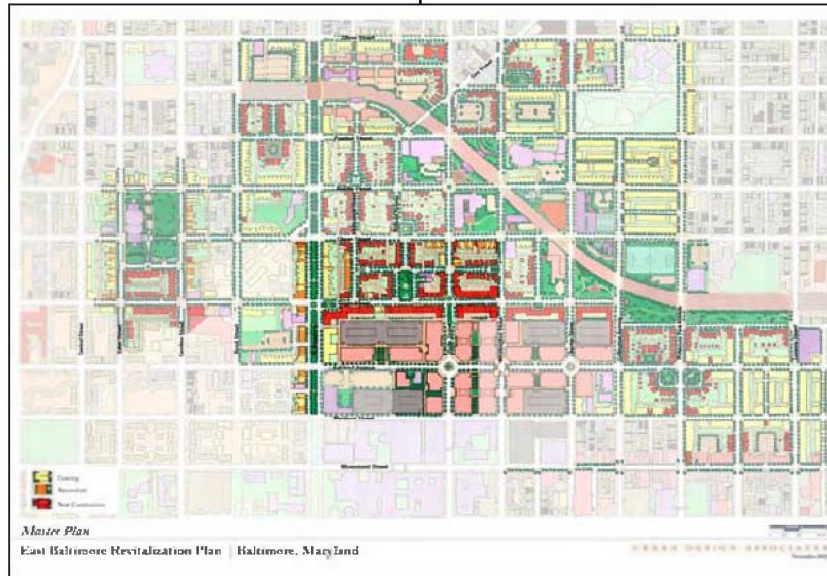
On the alignment question the New Starts criteria has allowed Baltimore to push potential land use into the conversation of where the Red Line will actually go. The project had been defined by key service areas. Within that general framework however there are hundreds of combinations of specific roadways and neighborhood areas that the transit can serve, and with the new starts criteria to draw on, the planning department has been able to push this discussion to include analysis of development potential. Rather than the path of least resistance (where the effort would encounter the fewest engineering barriers) the alignment question has become one of defining where they might best maximize land use and redevelopment to be transit-supportive.

Decisions are being made now about not only where the alignment goes, but how it will influence the longer term potential of the area. The land use discussion has also proven to be a great way to engage the community in thinking about the challenges and opportunities the

transit project entails. As part of the sketch plan charrette process, the city and county worked with consultants, stakeholders, and transit planners to explore opportunities and goals based on existing land use.

One station in particular stood out as having potentially broad and direct implications for the city's evolving transit-oriented development strategy. This has resulted in a project referred to as "State Center."

Baltimore's Maryland state office complex employs over 3000 people, and is exceptionally rich in transit resources. Regional rail and the city's metro and light rail lines come closest to intersecting here than anywhere else in Baltimore. Regional rail and Amtrak come into Penn Station at the northern end of the half-mile radius study area, which includes both metro and light rail stations that



**The master plan to revitalize East Baltimore includes several transit-oriented developments.** Photo courtesy of Otis Rolley.

are barely a block apart.

The planning department has worked over the past year with the state department of transportation to conduct interviews, compile data, and conduct a charrette to explore opportunities with the community. That process has resulted in a draft "TOD Strategy" which shows improved plaza connections to link Metro at the center of the area to light rail on Howard Street, and to surround these with mixed use activities and housing to energize and activate the area. As a result of this project, the state of Maryland has decided to move forward with a request for qualifications for all state-held properties in the area, a total of over 20 acres of downtown real estate.

Baltimore is also pursuing transit supportive projects along their light rail line. The state is in the process of double tracking the alignment so that trains will no longer have to share track. The city is reviewing op-

## Gaining Leverage from FTA's "New Start" Land-Use Criteria

opportunities to alter signalization priorities so trains can move more quickly through the downtown area.

While new developer interest is being translated into a mixed-use development on the northern end of the alignment, the Baltimore planning department has been active in planning for better pedestrian connection and development to the south. The plan is intended to fully leverage the connection between transit and other major amenities, to fully promote opportunities for TOD.

Interest in New Starts and the implications of land use for transit projects has also radiated out to community partners. The Baltimore Neighborhood Collaborative, a group of area community groups and non-profits, has been able to translate their related interest in "transit-centered community development" into a major Ford Foundation project to examine three station areas. The city has actively partnered with them in developing frameworks for this effort to help conduct outreach, education, and research of the workforce and housing opportunities for these station areas.

The planning department's present charge is first and foremost to reflect land-use and transit connection as a top priority in the comprehensive master plan, which will be finalized in the next year. They are also investigating incentive programs and processes as a more integral component of Baltimore's economic development strategy.

New Starts' land use criteria has also informed Baltimore's relationship with the county. Although the relationship has been in some ways competitive, as both the city and the county seek job and population growth, the transit assets that are shared and the com-

mon need to address and leverage New Starts criteria has helped to build a truly collaborative relationship with the county.

The county has also been pursuing transit-oriented development, with a major project currently unfolding at Owings Mills. In addition to an exciting new mixed-use development that will add jobs and destinations to the overall system, the project is providing lessons from which to build collaborative relationships with the county and the transit authority. City and county are learning from each other in building strategies for working with state agencies.

Perhaps most critically in their efforts to leverage the land use criteria is the extent to which the requirement provides a common ground and goal around which to develop the partnerships that are critical to transit project success. The Baltimore Planning Department has been actively cultivating positive collaboration with state agencies to make land use improvements at existing station areas.

Baltimore has the beginnings of what could become a great transit system. In addition to strong regional rail service that connects the city to Washington D.C, the city and county share a heavy rail line and light rail line, and the state run transit administration has a fairly extensive local bus system. Currently, this system is somewhat disjointed, with poor connectivity and pedestrian access in some areas, which has made it difficult for the city to fully build on the market potential that transit can foster. By using the requirements made my FTA for future development, the system will continue to develop and shape the surrounding region into a more sustainable, livable community.



## Form Before Function

**Kyle Walton**, Coalition for Smarter Growth, Washington, D.C.

**Katherine Cornwall**, City/County of Denver, Colorado

**Subrata Basu**, Miami Dade Planning and Zoning, Miami, Florida

**Jason Mumford**, DMJM+Harris Planning, Fairfax, Virginia

The term “form based code” refers to the concept of using zoning codes to bring back developmental patterns that focus on “form” before “function”. These form based codes are developed to incorporate a high level of public participation and to connect planning with urban design to help create mixed-use communities.

### Transit-Oriented Development in Miami-Dade County

Subrata Basu, Miami Dade Planning and Zoning, Miami, Florida  
basus@miamidade.gov

Miami-Dade County is situated between two national parks and is a population magnet due to its proximity to Latin America and the Caribbean. The region’s net growth is more than 30,000 people a year. If this trend continues, the residential land in the Miami-Dade area will be depleted in less than 15 years.

Much of the currently uninhabited land around the metro area is government owned. Planners are currently debating major issues on accommodating future growth. Some envision “urban centers” that would be designated into three different sizes, based on transit-oriented development (TOD).

These centers are dense urban communities served by transit and high quality train systems. They make it easy to live without a car by riding transit and walking through pleasant urban environments. The centers will have active, vibrant, and strong neighborhood centers focused around transit, similar to centers in Portland, Oregon.

Planners believe that these centers will work to reduce depletion of land resources, reverse sprawl, reduce automobile use and their toxic emissions, save energy, provide more choices for urban living, and provide

more discretionary time for their inhabitants.

In downtown Kendall, a suburb of Miami, the concept of a new urban center has been developed. The new center will be twice as large as the existing million square feet of commercial and residential space. Over 750,000 square feet of commercial space is currently designated for the development while 3,000 housing



### Plans for downtown Kendall, Florida have completely changed the form of development.

Image courtesy Subrata Basu.

units will be built for residents. New ideas include linear habitable spaces, open spaces created first instead of using “leftover” green space, and height controlled by stories and not by feet. The area is also less than a mile from a transit station, which will add to the development’s accessibility.

The development is currently under construction. Investors have found the planning and construction to be very predictable which has reduced processing time. Other planning initiatives are being made across the Miami-Dade region, with several of them already under way.

### Columbia Pike: Transit and the Form Based Code

Jason Mumford, DMJM+Harris Planning, Fairfax, Virginia  
jason.mumford@dmjmharris.com

Sandwiched between Fairfax and Alexandria, Virginia, this historic thoroughfare near the Pentagon has been under study since the early 1980’s. No revitalization project has yet begun. Invested money was used in a plan to bolster public involvement which led to a variety of new ideas for reawakening the area. The public

## Form Before Function

wanted walkable, easy to build buildings that would enliven storefronts, with transit that will diversify and promote local commerce.

Planners took these suggested ideas and implemented them with form based code. Form based code was used in the transit plans to anticipate capacity, add parking, and to fuel economic interest. Street cross sections were modified and street design standards were also developed. The form based codes that were produced covered three aspects of construction: building location, building form, and architectural standards.

Nodes centered on existing commercial districts and important intersections were identified. After years of very little investment, there is now at least one development project planned for each of these node redevelopment areas.

Form based code sets the stage for transit improvements in redevelopment areas by increasing density around these nodes and by developing a walkable street grid. Parking standards encourage efficient, shared use of space.

Keys lessons were learned in the community on integrating transit with form based code. First of all, codes can provide context for coordinated land use and transit decision making. Second, due to the codes, Arlington County and other partner agencies established an ongoing forum for negotiating public and agency goals. Lastly, its important to blend economic development and transit benefits in order to achieve project success.

### Reviving Main Street: Form Based Zoning in Denver

Katherine Cornwall, City/County of Denver, Colorado  
katherine.cornwell@ci.denver.co

Denver arrived at a form based code for its main streets through a visioning and planning process for East Colfax Avenue. The plan and the new zoning districts are the result of 4500 hours of community input. Colfax

is the longest continuously commercial street in the country, and it connects the entire Denver region, serving as the heart of the community.

A new vision for the region was generated through the public visioning process. This also generated a great deal of public excitement about the possibilities. Planners examined the relationship of the corridor to the transportation system and nearby activity generators in order to understand the corridor's relationship to the urban context. A zoning update was generated from this new understanding.

Three goals guided this zoning update: 1) to establish an appropriate form for

Main Street, 2) to simplify regulations, making them easier to use and administer, and 3) to improve the investment climate for a more predictable future for both investors and residents.

To establish a common theme for Main Street, planners suggested applying districts that respect the "residential fabric of the city" and reinforce linear development along the commercial streets. Main Street districts were also only to be applied to areas where the residential fabric has been broken down, or where land is underutilized. These districts were to be broken down into three different classifications based on intensity and size

Parking requirements also became an integral part of the process. Planners stressed the importance of shifting parking lots to the rear of buildings to allow better entrances and to increase a sense of privacy. Street parking was also to be better regulated using a resident/non-resident system.

In conclusion, form based zoning must focus on creating a place for people. These codes can counteract the corrosive effect of parking, can eliminate sprawl inducing land regulations, and can reduce dependence on cars. Form based codes also increase the convenience, ease, and enjoyment of walking or using transit, and they encourage the more efficient use of urban land in transit rich areas.

**The term "form based code" refers to the concept of using zoning codes to bring back developmental patterns that focus on "form" before "function".**



# Implementing Land Use-Transportation Scenario Planning: How to Make the Vision Happen

**Keith Bartholomew**, University of Utah,  
Salt Lake City, Utah

**Philip C. Emmi**, University of Utah, Salt Lake City, Utah

**Chuck Chappell**, Wasatch Front Regional Council,  
Salt Lake City, Utah

## Scenario and Transportation Planning

Keith Bartholomew, University of Utah, Salt Lake City, Utah  
bartholomew@arch.utah.edu

Scenario planning is the process of utilizing a series of scenarios to gauge possible future conditions, and to select an appropriate course of action in response. The history of scenario planning has been about either military or business. Military planning has always been about planning for alternate forms of threat, and planning for potential actions or reactions to threat. Business scenario planning has always been about planning for the management of future uncertainties, attempting to reduce investment risk.

Transportation planning was codified in the Federal Highway Act of 1962, which introduced the “3 C” planning process: continuing, comprehensive, and cooperative. In 1991 the 3C process was required at the statewide level with the adoption of the Intermodal Surface Transportation Efficiency Act.

New Transportation Planning brings in a new role for metropolitan policy making. Planners can come up with a vision of what a city will be. Scenario planning consists of visualizing what a city may become with certain development patterns. However, the policy makers are the ones who ultimately decide what the city will look like and how it will function. Supporting regular application of transportation improvements with local planning and zoning becomes an important part of the equation. Policy makers have the option of fully ignoring the vision, fully incorporating the vision, or partially incorporating the vision.

Of course, if the vision is completely ignored, the results are not predictable. A city will have no way to accommodate their future growth. Partially incorporating the vision or using it to a degree will result in growth that is more spread out and less dense. If the vision is only used to the point that you can get local buy-in, no real goals can be met. Involvement will only come when subjects are specific to individuals and no sense of community will be established. Fully incorporating the vision or “using the vision” means that there will be an exponential curve. Goals can be achieved and measured by economic, social, and environmental standards.

## Sprawl Dynamics

Philip C. Emmi, University of Utah, Salt Lake City, Utah  
emmi@arch.utah.edu

The future of sprawl and transportation can be predicted by using simple models. Population growth and transportation needs are major factors in determining the future of urban cities and they are very much connected. Four scenarios exist in determining the potential of cities and suburbs: baseline, an extension of historic practice; land use, an increase in new development densities by 20%; transportation, a reduction in single occupancy vehicle trips to 80% of total, and an increase in road capacity by 12%; and the combination of land use and transportation scenarios.

Savings in land consumption result when transportation and land use are considered simultaneously. History tells us that developmental densities increase more when you decrease the development of roads.

Cities are built up instead of out. Greater densities encourage more efficient urban cities. Developers will focus more attention on established cities and will not be encouraged to sprawl out if there is no access. A decrease in road building will also decrease the number of people who are driving. This will cause a savings in energy use and reduced emissions coming from vehicles.

History also tells us that quick response is also neces-

**Scenario planning consists of visualizing what a city may become with certain development patterns.**

## Implementing Land Use-Transportation Scenario Planning: How to Make the Vision Happen

sary. Slow response in a rapidly changing system is the problem. Quick responses will bring more favorable outcomes. Cities should be focusing on transportation issues; this will bring a more dramatic effect. There should also be alternative solutions to future scenarios. The opportunity to predict future scenarios can be learned from the past.

These concepts are simple to understand, it's just a matter of implementing them in future planning.

Urban dynamic system models are highly accurate, and easily manipulated. These models can generate alternative policy scenarios, and may facilitate future policy negotiations as they may define potential outcomes of various policy decisions.

### Implementing the Vision

Chuck Chappell, Wasatch Front Regional Council,  
Salt Lake City, Utah  
cchappell@wfr.org

Growth impacts need to be taken in as a whole. Local buy-in is necessary in the success for a transportation goal. Implementation of a preferred transportation scenario must be encouraged, but it cannot be forced.

Less than one percent of Salt Lake's total population rides the TRAX light rail system. Of that small portion, only five percent were once I-15 drivers. This is a situation that should not be ignored, but considered in future goals for transportation. Members of the community should be able to voice their ideas and opin-

ions in community workshops. These workshops have proven successful in generating new and useful ideas in transportation planning. Projects such as "Envision Utah" have proven to be a useful tool in allowing the public to be involved in city and transportation planning.

**Models can generate alternative policy scenarios, and may facilitate future policy negotiations as they may define potential outcomes of various policy decisions.**

What we should be looking at in transportation planning is what we sacrifice with heavy freeway systems. There are more

carbon monoxide emissions as well as reduced overall public health as a result of expanded highway systems. We should have NEPA requirements in mind when planning, as well as the needs of the community members. All of these factors are related.

Transportation planning should be looked at as scenario vs. principles situation. We cannot develop transportation principles without providing transportation strategies. There should be an efficient way to incorporate the transportation needs of everyone involved.

Transportation goals and planning will directly affect environmental concerns, public health, as well as the amount of land that is used. If the past does not serve as a reason for change, we will be doomed to repeat past mistakes. Even though scenario planning has become more prominent, the plans are not always executed when development occurs. There is a great need to incorporate long-range transportation goals into future development.

# Innovative Finance: Who's Got the Money?

**Gloria Ohland**, Reconnecting America,  
Los Angeles, California

**Jeff Ordway**, Bay Area Rapid Transit, Oakland, California

**Richard Stevens**, Dulles Rail Project, Fairfax, Virginia

**Michael Powell**, Powell's Books, Portland Streetcar,  
Portland, Oregon

In an era of shrinking transportation funding and burgeoning demand, cash-strapped government agencies need to get creative by partnering with the private sector and tapping nontraditional sources of revenue. Streetcar projects in particular - because there is no dedicated federal funding - have involved interesting collaborations among cities, developers and local businesses. Financing has occurred through the sale of parking bonds, assessment districts and the sale of naming rights and fees. Following are case studies of three cities that have used innovative methods to finance transit projects.

## Portland

**Michael Powell**, Powell's Books, Portland Streetcar,  
Portland, Oregon  
michael.powell@powells.com

The Portland streetcar project is a 2.4 mile double track system and was opened in 2001. The project was completely funded by non-federal sources other than a \$5 million contribution from the Federal Transportation Fund. The entire system was locally designed and paid for, which made the process simpler. Doing this also made the project longer in becoming realized since the funding had to be figured out, but without the federal "strings attached" funding there were many fewer hoops to jump through.

The majority of the project was funded by local city parking bonds. Local improvement districts and tax increment financing were also significant sources of funding. The project was constructed in small increments, moving about a block each week during con-

struction. This helped win over business owners who only had to deal with construction issues for a short time, instead of the entire length of the project.

Today the system is used by 2.5 million people every year, and has spurred development along the right of way. From the outset, the project was seen to be a development tool as much as a transportation project. It runs right through downtown Portland, and its primary use is not for commuters. The transit agency and local supporters of the streetcar had to convince skeptical land owners to begin to develop along the line before construction was completed. Many felt that they would hold their land until others developed and their land became more valuable. The city and state department of transportation were land owners along the new street-

car line, and they helped to get the development going in the area.

Over 100 new retailers have opened along the line since its opening, and it's estimated that this number will reach 200 by the time the system is built out. An extension was opened in 2005, and another is expected to open in 2006. Each of these projects has had similar local financing. The streetcar system has changed Portland's character for the better, and additional corridors are being studied for future expansion.

## Dulles Metrorail Extension

**Richard Stevens**, Dulles Rail Project, Fairfax, Virginia  
Richard.stevens@fairfaxcounty.gov

The new Dulles Metrorail Extension is a 23-mile addition to the Washington DC Metrorail system, ultimately connecting to the Dulles airport. The project includes eight new stations in Fairfax County and two in Loudoun County. Four major nodes will be connected, including Dulles, Loudoun County, Reston, Virginia, and Tyson's Corner.

The \$3.5 billion in funding has been raised through a public-private partnership. Fifty percent is coming from the Federal Transportation Administration's "New Starts" program, and 25 % is being provided by the state of Virginia, largely coming from toll road revenues.

**Any long-term project is going to experience substantial market changes, and you must make accommodation for changes that will definitely occur.**

## Innovative Finance: Who's Got the Money?

Special improvement districts were created to provide additional funding. Phase I includes Tyson's Corner, which generates more than \$200 million in tax revenue each year. This special improvement district will generate approximately \$17-\$27 million per year, based on tax rate and assessed land values. There were several conditions made in order to create the tax district. Funding for the design and construction had to be actively pursued by Fairfax County and Virginia. The tax district had to be limited to \$400 million of the construction costs, and phase II of the project had to be planned and designed to ensure that the second phase special improvement district would help shoulder the cost.

The benefits of creating a special improvement district to aid in funding the project included increased land value for everyone. It also increases the capacity for new growth in the Tyson's Corner area, with the potential to add more than 7 million square feet of commercial space. Densities will also increase in the most highly connected areas of the project.



**Tyson's Corner, located on the Dulles Metrorail Extension project.**

Photo courtesy of Rick Stevens.

Phase II of the project will be similarly funded, with the majority of funding coming from the FTA and the state. A large number of property owners in the second special improvement district are real estate investment trusts, who are mostly interested in turning around the property for profit. They have expressed concern that a special improvement district attached to the deed will affect the selling price of their land.

In conclusion, this project is an example of the power of cooperative partnerships. A comprehensive transportation network is a necessity for sustained economic vitality, but with increased construction costs, improvements exceed government's funding capabilities.



Public-private partnerships provide new sources of funds to undertake system improvements. These improvements require strong working relationships among partners and a full understanding of the benefits of infrastructure

improvements to all partners as well as to the general public.

### **Dublin/Pleasanton Station, Bay Area Rapid Transit**

Jeff Ordway, Bay Area Rapid Transit, Oakland, California  
jordway@bart.gov

A partnership was formed to create a new station near Dublin, California on the Bay Area Rapid Transit (BART) system. The cities of Dublin and Pleasanton were brought in, as well as several private partners and consultants. The county of Alameda as well as the Alameda Congestion Management Authority, and the California Department of Transportation were also partners on the project.

Originally, private developers approached BART in order to begin development on BART-owned land. The intent was to secure tax revenue from the new development, and the cities agreed to dedicate a portion of their tax revenues to BART for the next 17 years in order to fund the building of a new station for their communities.

Since that original plan, several things have changed while the project has developed. Cities have agreed to prepay their tax revenues in order to reduce risk to BART. The agency's debt has also been rearranged in order to increase sales tax capacity. Fares have also increased on the system, providing more funding options. However, costs of operation and construction have similarly increased. Originally many private

## Innovative Finance: Who's Got the Money?

sector developers were interested in the project, but office and hotel demand has cooled since then. Only the housing component has remained strong. Interest rates have remained lower than was anticipated, so the debt required to be paid back will be much less than originally planned.



Construction costs have been a significant issue. **Development plan for BART's Dublin/Pleasanton Station.** Image courtesy of Jeff Ordway.

BART is unable to issue a bond without a guaranteed maximum price, so they have to wait to lock in the price estimate until costs are steady. A half-point increase in interest rates is built into the cost estimate, so the cost of the debt will be better estimated once the bond is issued.

When the office and hotel markets in the area dropped, the residential tax revenues were not enough to service the debt of the project. As was mentioned, the city and county are going to prepay their tax obligation in order

to reduce the risk during the first few years. It is planned that this amount will hedge against the operation costs for the first five years, after which the revenues would be going to the municipality.

Several lessons have been learned during the course of the project. BART has learned that this is still a transit project, not a true real estate transaction. This

is a subtle, yet important distinction. When the markets dropped they were forced to look at different funding sources. Had they created a larger special improvement district this would have had less of an affect, but it also would have been rather difficult politically to make a larger assessment district. Finally, they also learned that any project that takes a long time is going to experience substantial market changes, and you must make accommodation for changes that will occur.

## TOD and What Developers Want

**Paul Morris**, PB PlaceMaking, Washington, D.C.

**Lee Norris**, Cherokee Investment Fund, Raleigh, NC  
lnorris@cherokeefund.com

**John Pertchik**, The Staubach Company, Boca Raton, Florida  
jon.pertchik@staubach.com

Cities in America are changing rapidly. Maturing cities are proposing major changes as costs increase and existing systems fracture. In order to address these issues, planners in America need to be more creative in how they do business, and institutional processes need to reform.

### Change the Roles

The roles and responsibilities of developers and community members are changing. It is important that developers see themselves not only as business people, but as members of the community. When they see that they can do both *good* and *well* as community builders, we will see a shift in the way that our cities are developing. Community members need to understand the financial demands on developers. If they can figure out how to give the developer what they need, the developer will be more likely to give the community what they need and want.

In order for transit-oriented development to be a success, the partners in the process must come to common ground for a consensus. Building TOD is more challenging than regular development, so in order for it to be a success, all stakeholders need to work together and identify common desires, realizing that they are more alike than different in their goals.

An essential part of planning TOD is respecting existing places. One of the greatest fears of citizens in existing communities is that a developer is going to come in and destroy the things that initially drew them to the neighborhood. Almost 70% of those who buy homes in a TOD community already lived or worked in the area, so if a developer alienates the existing community, they have already lost a large part of their market. A

**Developers need the most help with parking. The high costs of parking can be unsustainable for a developer trying to create a TOD.**

developer should identify areas that will encourage a local sense of ownership, and should design buildings and public spaces that the existing will see as an amenity for their own neighborhoods.



**Washington's West Hyattsville TOD.**

Image courtesy of Paul Morris.

The West Hyattsville Station TOD in Washington, D.C. was written off by the Washington Metropolitan Area Transportation Authority as an undevelopable area because of the size of the floodplain on the property. Several groups came together to understand the hydrology of the land to see if there was any potential for a successful project. This group was able to create a parcel large enough to develop a viable community, and a large open space that would benefit new residents as well as those already living there.

### Change the Rules

One of the largest obstacles to TOD is the existing city codes that forbid virtually all TOD-style development patterns. Many cities have adopted overlay zones, but these have been found to be hardly any better than existing codes. Planners must truly understand how TOD works in order to make the changes to city codes

## TOD and What Developers Want

that will help developers do it correctly. If cities will roll out the red carpet for good development instead of making them go through a lot of red tape, the process will be much simpler. Cities should make it faster and easier to do good development than it is to do standard, auto-oriented development.

Focus on form more than function. Zoning today is based almost entirely upon the types of uses that are allowed in an area. A form-based code focuses more on the form and setting of the development than it does on what is actually happening there. This allows for more flexibility, which the developer will appreciate. Form-based codes must be market-based, and the developer needs to have some input into the forms that are required.

Developers need the most help with parking. The high costs of parking can be unsustainable for a developer trying to create a TOD. When developers are required to provide the same amount of parking at transit-oriented developments as they are in auto-oriented developments, the cost becomes prohibitive and will ultimately make the development an economic failure. Planners should credit on-street parking towards parking requirements and should also credit shared parking areas. In TODs, developers are often forced to build large parking structures, which can increase the cost of parking construction dramatically. At the West Hyattsville TOD, developers were able to reduce the parking built by 1600 spaces, which ultimately saved the project \$35 million.

### Change the Risks and Rewards

The developer's goal is to invest capital with the expectation of a meaningful return. When the government invests in an area, their expectation is the same. In the DC area at \$25 million government investment stimulated \$700 million in private investment over 10 years. This investment created potential for return for the developer, and generated more yearly tax revenue for the city. An investment from the public sector can

change an area into a significant financial resource for the public and private sector.

Proposals for development will often include plans that include both short and long term elements, but the actual construction of planned future elements is contingent upon the success of the initial development. The market changes quickly. In a project planned for a 10-12 year build-out, stakeholders must understand that the market will change completely in those ten years. TOD requires a very intelligent, market based plan, flexible to market changes.

When developers are brought in for a project, they need to have an understanding of the time frame of the larger project. By separating the development into phases, such as "shovel ready" (1-2 year time frame), "short cycle" (2-5 years), "soft cycle" (5-10 years), and "recycle" (10-20 years), the developer can better equip themselves for the financial demands of the various time requirements.

### What Do Developers Really Want?

Most developers are usually engaged too late in the planning process. Public entities need to engage a developer in the process much sooner than they usually do. Developers prefer a "request for qualifications," as it allows them to be involved in the process before all the big decisions have already been made. Planners should understand that the best developer will not necessarily be the one who has the best presentation or the fanciest renderings. The best developer will be the one that will be able to build a partnership with the community and will develop an agreement based on values and responsibilities. If interests are aligned, the process will move faster, and the product will be more workable.

Developers love predictability. When the planners don't really understand the process or where potential pitfalls may be, developers are reluctant to get



## TOD and What Developers Want

involved. Planners must understand the timing of the project, as time is the biggest enemy of a successful developer. When a year or two wait is thrown into a project, the developer will get scared off immediately. Be prepared and well informed about the timing of the project.

A successful TOD project must be market based. Although some may view historical absorption of development as the market, this is not true demand. Development tends to follow historical patterns, even though they may not follow the market directly. Transit-oriented development is trying to create new patterns that will follow the true market in the country's cities and create successful communities. Being transit-oriented is not enough for a develop-



ment to respond to the market. Transit can be an amenity for a project, but it alone will not create a market. New market research should be done in an area where a TOD is proposed. This will tell you what is truly in demand, as opposed to what developers will tell you is in demand.

In conclusion, developers need to become a true partner with communities as they enter the TOD marketplace. Planners must understand the demands that developers have, and community members need to see developers are an asset to their community, not someone who is going to come destroy their community. When all parties understand each others' needs, the end result will be more successful and beneficial to all.



## Going Green! Sustaining Our Future Through Smart Choices, Big and Small

**Carolyn Young**, TriMet, Portland, Oregon

**Lisa Padilla**, Zimmer Gunsul Frasca, Los Angeles, California

**Samuel Assefa**, City of Chicago, Illinois

**Soren Simonsen**, Cooper Roberts Simonsen Associates, Salt Lake City, Utah

The trend in our nation's cities to "go green" is picking up steam every year. While the idea of making our communities more sustainable is catching on, many communities may not know where to start. We can learn from the experience of several success stories on what steps to take first and where to find resources to help in the process of "greening" our cities.

### Chicago: "Urbs in Horto"

**Samuel Assefa**, City of Chicago, Illinois

[samuel.assefa@cityofchicago.org](mailto:samuel.assefa@cityofchicago.org)

When Chicago was incorporated in 1837, its motto was "Urbs in horto," meaning "city in a garden." In 1909, Chicago adopted the Burnham Plan, which placed parks at the center of the city's development. It also actively protected the lakefront, and planned for efficient transportation of both goods and people.

Today, the effects of the Burnham Plan can still be seen and experienced throughout Chicago. The lakefront is one of the most accessible of any large city in the world, and the amount of public space is unmatched throughout the country. Mayor Daley's vision is to make Chicago the greenest city in the nation and provide healthy air and water to citizens, promote wise energy use, and conserve resources. This vision is also about increasing Chicago's competitive edge, making the city a place where people want to come live, visit, and start their businesses.

There are three essential keys to a green policy having an impact on any city. It must be comprehensive, it must apply to every department, and it must have strong mayoral leadership. If these three elements are in place, you are on your way

to a greener, healthier city.

Chicago is still making improvements in their green policies and is raising the standard for other cities around the world. Every department in the city of Chi-



**Chicago converted its city office roof to a green roof to conserve energy and reduce storm water runoff.** Photo courtesy of Samuel Assefa.

ago is mandated to have a "green policy". The underlying belief is if the city renovates public infrastructure to be more environmentally friendly, the private sector will soon follow.

The Chicago area is one of the first municipalities to have energy codes in the entire United States. Standards are set for new and renovated buildings to increase energy conservation, and 3,000 building professionals have been trained to meet these standards. It also now requires that there be three LEED certified staff members in each city department. Chicago planned to have twenty percent of its energy derived from renewable resources by the end of 2006. While the city is currently at 12% at the end of 2005, it is far above the US average of 1%.

Chicago's water management goals include reducing stormwater runoff. By reducing runoff problems the amount of polluted water running into Lake Michigan each day will be drastically reduced. The city is currently working on a five-year plan to improve its water infrastructure. When this



## Going Green! Sustaining Our Future Through Smart Choices, Big and Small

plan is completed the city will be saving 160 million gallons per day!

Air quality is another major element to Chicago's green policy. The air quality policy includes three basic factors: developing partnerships, encouraging use of alternative modes of transportation, and planting trees. Through partnering with state and local organizations, the city of Chicago planted 400,000 trees. This will remove the particulate matter emitted from 31,000 vehicles from the air. With the largest vehicle fleet of any city in the country, they are also working to replace all their vehicles with those running on alternative fuels.

The current Chicago standard is that all public projects have to be LEED certified. To promote this policy, the city converted its half of the city and county building to a "green roof." There is now a 40-60 degree surface temperature difference between the two halves of the roof, and a 15-20 degree ambient air difference inside the building, which saves thousands of dollars each summer in cooling costs. The green roof also reduces stormwater runoff by 70%. The city has now begun to raise bees on the roof of the building, producing honey on a once-barren urban roof. The private sector has followed the city's example, and there are now 42 LEED certified buildings in Chicago, with 155 green roof projects.

Other land use policies encourage parking reduction near transit stations and establish design criteria for pedestrian streets. These policies also require increased bike storage and encourage transit-oriented development (TOD) throughout the region.

The city has also developed the Chicago Central Area Plan: 2020. This plan aims to make transit the first choice, encourages alternate modes of transportation, improves the quality of the pedestrian environment, and increases park and open space. With infrastruc-

ture already in place in the downtown area, the plan also works to increase density in the city. This translates into less energy consumption per capita, and less need for the city to continue to sprawl out across the region.



As these policies change the face of the city of Chicago and inspire private sector developers to adopt green policies, it is also

their hope that cities across the nation will implement similar policies to make their own communities more livable and sustainable.

### Utah's Tale of Two Cities

**Soren Simonsen**, Cooper Roberts Simonsen Associates, Salt Lake City, Utah

[soren@crsa-us.com](mailto:soren@crsa-us.com)

By making sustainable choices in city development, both big and small, some of the environmental harm that has already been inflicted on the planet will be alleviated. Deforestation causes tree coverage to shrink by 65,000 square miles a year. Cases of contaminated groundwater and biologically dead lakes, along with dropping water tables are becoming more and more common. Global warming is seriously affecting ecosystems around the planet.

**The single biggest factor in our ecological footprint is our transportation choice, and most have chosen the most consumptive mode, the personal automobile.**

Originally planning and zoning were implemented to address health concerns such as residential areas' proximity to industrial

sites. Over time planning and zoning has transformed to become an economic activity, to the detriment of our nation's health standards.

Vehicle miles traveled has increased 80% in the last 20 years, compared to a 21% increase in population. Lack of physical activity is contributing to added health care and insurance costs for everyone. Obesity is the fastest growing health threat, second only to smoking as a preventable cause of death. Depression is now the leading cause of disability in the country, and employers are losing approximately \$44 billion each year in

## Going Green! Sustaining Our Future Through Smart Choices, Big and Small

lost productivity due to employee's mental health. Our cities are in major need of rethinking if this is the way we have chosen to live today.

There are approximately 4.5 acres of land available on the planet to meet the needs of a single person. It takes approximately 24 acres to sustain a single person in the United States. In Utah, the average is 30 acres, much worse than the national average, and several times more than the planetary supply.

The single biggest factor in our ecological footprint is our transportation choice, and almost all Utahns have chosen the most consumptive mode, the personal automobile. There is an imbalance in the perception of risk and urgency in changing the way we plan our cities. In 2003 auto related deaths outnumbered homicides



**West Valley City has developed a new master plan for its downtown that will be more transit supportive.** Image courtesy of Cooper Roberts Simonsen Associates

in the Salt Lake metropolitan area more than eight to one, with more than 180 auto related deaths. There were also an estimated 350 deaths in the area directly linked to poor air quality. Although there is some concern about these statistics, the level of urgency is not proportionate to number of deaths stemming from the choices we have made.

Two cities in the Salt Lake Valley are pursuing plans that will increase the sustainability of their communities, Sandy City and West Valley City. Both cities are working to improve transit connections with downtown Salt Lake City as well as develop vibrant and livable downtowns themselves.

Sandy City is currently the sixth largest city in Utah. Its downtown is basically a shopping mall next to a freeway on-ramp. They hope to develop a more enjoyable and sustainable downtown by developing around a newly built city hall. When the light rail TRAX line was built a few years ago, city leaders fought to keep it out of the downtown area, and it was installed parallel to the area. Today the TRAX line is highly used in the city, and city leaders are asking how they can improve connections with the system.

The first step the city took was to look at walkability. The existing block size is much too large, so a new grid system was developed that would break the scale of the blocks down to a more walkable 8-12 acres. A system of trails and open space was planned, connecting with transit options. Improved transit lines were planned to connect to the TRAX line, and a new station was planned by the expo center located north of the downtown area.

Public policies were also changed to improve sustainability of the city as a whole. New zoning was introduced that would increase development density through mixed-use overlays. Conservation pricing was also introduced to encourage reduction of water consumption. The city also has plans to increase the urban forest and to preserve wetlands and wildlife habitat found in the area.

West Valley City is second largest city in Utah, right after Salt Lake City. Its downtown is also defined by a mall by a freeway onramp. The remainder of the city is almost exclusively low density residential. The city wanted to develop a new character in its downtown area, and create a well defined civic center. It is anticipating the addition of a TRAX line into its center in the next few years, and wanted to develop in a way that would support the new transit line.

It came to the conclusion that it wanted to redefine the mall area, making it an urban mixed-use neighborhood rather than a single story strip mall. New policies would increase development density through mixed-use zoning. West Valley has the lowest income levels in the region, and lacks a significant employment center. A primary goal was to establish a viable employ-

## Going Green! Sustaining Our Future Through Smart Choices, Big and Small

ment and business district that could offer long-term employment opportunities for the city.

The city has worked to encourage TOD in its downtown area, hoping to expedite the construction of light rail and bus rapid transit projects that are currently being planned. In addition, they are working to create a bicycle and pedestrian supportive environment throughout the city.

These two cities are dealing with the realities of their development patterns, and are seeking to improve the sustainability of their communities. By changing policies and prioritizing transit-supportive development patterns, they hope to create more livable and enjoyable communities.

### Santa Monica Boulevard Master Plan

Lisa Padilla, Zimmer Gunsul Frasca, Los Angeles, California  
lpadilla@zgf.com

Located between the cities of Los Angeles and Beverly Hills, West Hollywood has developed a plan to improve the 2.7 miles of Santa Monica Boulevard that serves as its main street. Basic improvements were done between 1999 and 2001, including the planting of 1200 new street trees. The new master plan will increase the sustainability of the street, improving its ability to support a livable community, encouraging pedestrian and transit use, and contributing to the city's limited green space.

A 42-person steering committee was established to develop design objectives. They produced a concept for the two sections of the boulevard, increasing pedestrian safety, enhancing the existing landscaping, and creating distinct gateways into the city.

The travel lanes of the boulevard stayed basically the same, but bike lanes were added. Public art was added to the median that is able to be seen from several transportation modes. Bus stops were also redesigned to make waiting for the bus a more enjoyable experience. Artists and landscape architects were commissioned to redesign individual stops, giving them each a unique character.

Another project in the area is the improvements to 2nd

& 4th streets in Santa Monica. This is the third phase in the city's downtown urban design plan, and includes 8 city blocks. The projects sustainability goals were to create a unique street identity in order to encourage walking and shopping. The city also wanted to reduce storm water run off and overall energy consumption. This required a tough choice regarding the fate of the existing trees.

The city of Santa Monica wanted to promote a "park once" philosophy that would encourage shoppers to park once and walk for the remainder of their trip, rather than driving from place to place. They also wanted to reinforce a downtown identity with a more defined streetscape. They would install new landscape features, street light, crosswalks, and integrate art into the overall design.

The city evaluated the existing ficus trees located on the project's streets. They cost a lot in sidewalk repairs and pruning costs. They evaluated options that would replace the trees all at once, replace every other tree, or retain the trees until they had to be taken out. The city looked at all the factors, and in the end decided to remove every other tree and replace them with other, more ornamental trees.



### Santa Monica Boulevard has been redesigned to improve walkability and accessibility.

Photo courtesy of Zimmer Gunsul Frasca.

The city of Santa Monica is leading southern California in its sustainable policies, and is working to promote sustainable development in the private sector. They hope that their policies will improve the quality of life for their residents and that sustainable building practices will eventually minimize future maintenance and operational costs throughout the city.

# Transportation Funding and Land-use Control

**Ellen Smith**, Bay Area Rapid Transit, Oakland, California  
**Gerry Tully**, Proterra Companies, Inc., Salt Lake City, Utah  
**James Corless**, Metropolitan Transportation Commission, Oakland, California  
**Diane Stark**, Alameda Congestion Management Agency, Oakland, California

Many in the planning and development field would agree that there is a strong and important relationship between transportation investment and land-use development. Continued struggles in taking the necessary steps toward creating a logical connection between the two illustrate the need for sustained efforts at federal, regional, and local levels to develop this relationship. The Federal Transit Administration (FTA) and its advisory panel has been working to establish new policies that help shape land-use development through transportation funding.

## New Starts Guidelines

**Gerry Tully**, Proterra Companies, Inc., Salt Lake City, Utah  
Gerry@proterrainc.com

Two years ago the FTA contacted the Urban Land Institute (ULI) for assistance in drafting new FTA New Starts guidelines. The FTA was concerned that current policies were not effective in balancing the relationship between land-use and funding. They requested the ULI create an advisory panel of members from across the country with various backgrounds in planning and land-use. This panel was to review current guidelines with which the FTA was not satisfied. Upon identifying the problems with the policies, the FTA also requested the panel provide suggestions for changes to the guideline system. Upon review

of the guidelines, the panel felt that the whole system needed to be altered, and they told the FTA that they would like to rewrite the entire guideline system. With approval of this request, the FTA allowed the panel to begin work on drafting new program guidelines.

The FTA expressed the desire to create guidelines that would maximize spending while producing effective and efficient transit systems. Producing a transit system that opened on schedule, and on or under budget was essential. Project risk was to be extensively reviewed to minimize project failure. By encouraging the highest standards of transit-oriented development (TOD), the goal was to find fair, defensible, logical methods for rating competing projects. With more applications for projects than money to fund them, the

FTA was determined to structure a fair and balanced system. Raising standards to encourage a higher rating score would eliminate premature proposals not yet suitable for advancement in the funding

**The Federal Transit Administration and its advisory panel has been working to establish new policies that help shape land-use development through transportation funding.**

process.

Upon review of FTA goals, the advisory panel outlined their recommendations for altering the guideline system. Primarily, the panel asserted the need to create a “level footing” in the rating system. Developing a more intense threshold for a pass/fail criteria and introducing land-use considerations earlier in the funding process were other key points summarized in the panel suggestions. The panel also established a simple TOD typology system to rate TOD projects as high TOD, moderate TOD, or low TOD, according to potential for density, walkability, and mixed use development.

The panel also felt that it was important to level the field by encouraging opportunities for smaller communities that did not have the same funding opportunities as larger cities under the former guidelines. Although land-use was an important factor, the panel gave it only 20% in the final rating system. Transit plans and policies were



## Transportation Funding and Land-use Control

given 65%. With this delineation, a community with a great plan and solid policy would have an increased chance of funding under the new criteria. Regional and corridor plans were given the last consideration with the idea that most of the support in these projects comes from the local level, and that this should be encouraged.

Other ideas from the panel included a “no-go” decision in the process. If a project did not meet one criteria, the FTA would deny the project clearance to move to the next phase, which was not previously done under former procedures.

Zoning and incentive considerations were also outlined by the panel. With the new guidelines currently being re-written to include significant land-use consideration, future funding will be based on new goals and objectives. Transit will need to impact community patterns of development. We need to continue to push for a system that considers a comprehensive land use and transportation connection.

### Oakland's MTC

**James Corless**, Metropolitan Transportation Commission, Oakland, California  
jcorless@mtc.ca.gov

The Metropolitan Transportation Commission (MTC) is the metropolitan planning organization (MPO) for the region surrounding San Francisco, California. This includes 9 counties, 7 million people, 101 cities, and 26 public transit operators. The MTC is essentially the banker/mediator for the region in terms of transportation funding. Efforts are being made to improve the land use and transportation relationship on a regional level.

Due to the nature of the geographic and demographic diversity in this region, adopting successful policies for the entire area can be very difficult. There are four ways in which a region can use transportation funds to influence land use.

The first funding tool is the planning grant. These are small grants provided to communities to offset the cost of preliminary planning of transit development. This funding helps in essential steps that result in a more successful project. These grants are usually around \$75,000 for the Bay Area region. This funding may come from T-21 or RST fund sources.



The second funding tool is the capital grant. This is money that is set aside from capital to create larger grants of up to \$1,000,000. These grants are used to offset the costs of building sidewalks and other access infrastructure for transit stations. By providing this special type of funding they ensure that access to these transit facilities is solid, which becomes essential to the system's success.

The third type of funding is other rewards. By rewarding development near transit, rewards encourage developers to consider placement of projects closer to existing or future transit lines. This increases the potential ridership and further supports the system for future expansion. Without these incentives, developers would seek locations that do not favor transit.

The final funding tool is the establishment of requirements and conditions for development near transit. By conditioning the use of transportation funds upon proximity to transit systems, developers are not only rewarded but are required to give attention to transit access.

Some examples of initial funding programs are the Housing Incentive Program (HIP) and the Transportation for Livable Communities (TLC). These programs are funded by planning and capital grants. These are programs that are utilized to reward communities for orienting housing and development near transit. Some successful projects that have incorporated these types of incentive programs include the Mahon Trail Proj-

**Efforts are being made to improve the land use and transportation relationship on a regional level.**

## Transportation Funding and Land-use Control

ect, the Santa Rosa Downtown Pedestrian Linkage Project, the Fruitvale Transit Village Project, and the downtown Petaluma River Apartments Project.

Although these funding programs in no way cover the entire cost for these types of projects, the funding that MTC does provide acts as an incentive for these types of projects. Even though these projects might have been possible without this type of program, the risk would have been much higher, which often scares off developers.

Although the success of these programs is encouraging, there are still difficulties. Politically speaking, the concept of conditioning is not a popular tactic. Furthermore, board members are often local elected officials. With public pressure and changing members, it can be difficult to implement a successful program.

Gladly, MTC's TOD Policy for the region was unanimously passed in July of 2005. Pressure for affordable housing in the Bay Area has now become a significant incentive as well. To preserve its integrity and success, the TOD plan will be reviewed every 12 months.

### Local Incentives

**Diane Stark**, Alameda Congestion Management Agency, Oakland, California  
dstark@accma.ca.gov

Covering approximately 738 square miles of land with 14 cities, Alameda County currently has eight high priority TOD development sites. As the local transportation agency, the Alameda Congestion Management Agency (ACMA) plans and funds transportation projects that include street, highway, and mass transit improvements.

By providing incentives for TOD, choices for mobility are improved. Not only does the practice provide for choice in mode of transit, but it also improves the efficiency of the system that is already in place. Most importantly, the incentives are designed to increase transit ridership and reduce traffic congestion.

In addition to the ACMA, other public agency involvement includes various city and county groups with jurisdiction over local land issues. BART is the local rail operator which also owns land around the rail system. Together, these public agencies work together through TOD incentives to provide the most effective development possible.

Although ACMA does not own land or have jurisdiction over land use, the ability to offer incentives for TOD provides an important bargaining chip in the development process. Some of the local incentives ACMA provides for building TOD include linking transportation funding to land use, developing fund criteria and guidelines, assisting in monitoring and tracking funds, assisting in providing technical expertise, and serving as a liaison for resolving TOD issues. ACMA provides the crucial experience of dealing with the funding agencies, which most of the applicants lack.

Due to policy requirements outlined in the transportation plan, any project funding must meet specific guidelines delineated in the policies of the plan. In the county wide plan, ACMA has identified eight priority TOD sites, working closely with cities to identify their transportation priorities. The purpose is to ensure that every project provides for access to all members of the community.



In addition to policy incentives provided by ACMA, incentives are also offered by the Regional Metropolitan Commission Plan, which includes Resolution 3434 dealing with transit expansion linked to land use. TOD projects are outlined in detail in this plan. Developer incentives might include reducing parking requirements in exchange for pedestrian, bicycle, or bus access improvements. All incentives are targeted to provide a means for local agencies to work towards the most successful TOD possible.

There are multiple sources of funding for TOD incentives in California. Vehicle registration fees are a primary source for projects that reduce vehicle emissions.

## Transportation Funding and Land-use Control

Although the state of California is currently experiencing fiscal problems which prevent the availability of state transportation funds, the State Transportation Improvement Funds (STIP) as well as transportation enhancement funds normally add to the funding sources. State sales tax of one quarter of one percent provide funding under the Transportation Development Act (TDA) with a portion devoted to bicycle and pedestrian projects.

In addition to federal and local funding sources, private sources such as foundations, corporations and investors may also contribute necessary funds for these projects. Any one project often has approximately 40-45 sources of funding in order to get the project started.

ACMA not only finds it important to assist in the provision and allocation of this type of project funding, they

also provide important local assistance in the monitoring and tracking of the funds received. By providing on-call technical consultants for issues imperative to overcoming TOD barriers, AMCA hopes to eliminate important obstacles resulting from such issues as hazardous materials, parking, and storm water. This type of service offers valuable expertise on subjects that normally inhibit the TOD process.

Although ACMA has experienced success, there is definitely room to improve. The need for more flexible funding, as well as more coordination between public agencies for funding and clearance requirements would greatly enhance ACMA's capacity to provide necessary assistance to Alameda county's TOD goals.

**Local incentives are designed to increase transit ridership and reduce traffic congestion.**



# Regional Decision Making

- Cheryl King**, Wilbur Smith Associates, Atlanta, Georgia
- Alan Hoffman**, The Mission Group, San Diego, California
- Karin Morris**, Delaware Valley Regional Planning Commission, Philadelphia, Pennsylvania
- Robert Grow**, Envision Utah, Salt Lake City, Utah

## Delaware Valley Regional Planning Commission

**Karin Morris**, Delaware Valley Regional Planning Commission, Philadelphia, Pennsylvania  
kmmorris@dvrpc.org

The Philadelphia nine county region is served by the Delaware Valley Regional Planning Commission (DVRPC). This metropolitan planning organization (MPO) was created in 1965 in order to plan for orderly growth and development for the region. It deals with issues of transportation, land use, open space, housing, and economic development.

As an MPO, this organization focuses on long range planning, emphasizing the importance of transit-oriented development (TOD) in creating livable communities. They recently completed an inventory of all TODs in the region, and have held marketplaces that bring developers and communities together to create future TOD projects. They use the Transit and Community Development Initiative to give grants to communities to promote TOD planning and development. They are legally precluded from being a development partner, but they work diligently to educate

**Reluctant to give up parking to development, the character of most transit stations in remain auto oriented.**

communities that can bring about change through development.

Extensive transit infrastructure serves the Philadelphia region. There are over 340 fixed rail stations in the region, connecting the city of Philadelphia with its outlying suburbs as well as other regional centers and major cities along the Eastern Seaboard.

New Jersey Transit is one organization included in this MPO. They have developed a program designed to encourage transit friendly communities along their stations. The New Jersey Department of Transportation has developed a transit-oriented development initiative for the entire state, as well as a smart growth plan.

In Pennsylvania, there are fewer TOD related programs that have been developed. There is currently no dedicated state funding for transit in Pennsylvania, and there are fewer recent New Starts projects. The state is less urban than New Jersey, so the population in general is less familiar with transit.

In the city of Philadelphia, TOD has had major setbacks. Historically, the development patterns in Philadelphia have been more transit-adjacent or transit-hostile, precluding the possibility of effective transit-oriented development. Current stations are primarily surrounded by large parking lots or by industrial zones that don't really generate large numbers of riders. The transit agency doesn't have enough assembled land to create their own TOD, and the older infrastructure in the transit system is in need of major capital investment.

Philadelphia's transit agency has not yet ventured into joint de-



**DVRPC is helping municipalities redefine station areas.** Image courtesy of Karin Morris.

## Regional Decision Making

velopment to bring about TOD along their system. Reluctant to give up parking to development, the character of most stations remains auto oriented. Although there are many rail lines running through dense communities, they are legally prohibited as a transit agency to partner with developers in order to pursue land development. All these add up to make the Philadelphia area a challenge for transit-oriented development.

The DVRPC chose 45 locations in the region that could potentially become TOD. These sites either had vacant or underutilized land near the transit stations with accompanying development pressures in the area. In order to be considered a prime location for TOD, the community already had to be supportive of TOD and public utility infrastructure had to already be in place. Good road access was also essential, as was the frequency of the existing transit service.

New Pennsylvania legislation allows the transit agency to work directly with locals in creating TRIDs. The TRID area will benefit directly from development within the district by sharing increased tax revenues from the projects to develop transit infrastructure and community improvements.

So far, there have been only a few examples of true TOD in the region. Municipalities have been the driving force behind the development of TOD, and change has been incremental. Interest in TOD for the Philadelphia region is growing, but change is slow, and since DVRPC has no authority to implement TOD they must rely on others to implement the plans that they make.

### Regional Visioning

Alan Hoffman, The Mission Group, San Diego, California  
alan@missiongrouponline.com

It is important to do regional visioning in order to focus the attention of the public, stakeholders, and the government. Patterns of growth that have been used in the past have lost relevance, and the future will only become more incompatible with existing systems.

Since patterns of growth need to change significantly, and it is important that all stakeholders participate in visioning in order to address major concerns.

People usually don't participate in public processes for a number of reasons. Often people see the visioning process as merely another set of meetings whose outcomes will not really affect any future processes. Time is also a major barrier for participation. Results of visioning are not seen for



years, which is a time horizon difficult to comprehend. This process is seen as someone else's problem, and daily concerns often seem more important than making plans for thirty years in the future. Despite all of these obstacles, it is important to note that although people may not be interested in participating in the process, they still want to have a say in the outcomes of the process.

In understanding public involvement in the visioning process, it is important to note two key dimensions in how members of the public consider issues of regional growth and development. The first dimension is their attitude towards public space. Some want to create significant public spaces and places that represent the public realm. Others prefer the private realm, with more control and safety, even if their activities are more limited.

The second dimension is people's attitude towards public investment. Some are in favor of spending public money on important projects. Others are tax averse and believe in spending as little as possible on essential projects.

Using these two dimensions, four groups can be identified with distinct attitudes towards public space and public investment. Each of these groups focuses on a different time frame and has widely varying viewpoints.

The first group has been termed the "Urban Utopians." They are positive towards investment in public spaces,

## Regional Decision Making

and want money spent by the public to build great cities. They are future-oriented and see the potential for public spaces. They support increased urban density, and key issues for them include the creation of a “real” city, and the importance of preparing for “drought” years through the adoption of “sustainable” design. They choose to use transit or walk to their destinations. They shop at corner stores or at street-level retail.

The “Suburban Edenites” are willing to spend public money, but don’t like it spent on public spaces. They are past-oriented, and see the past as a lost paradise. They want to limit future growth as change only means bad things to them. They see growth as causing traffic and parking problems. They love private space, and use words like “over-built” and “congested.” Their key issues include auto access and parking availability. They are primarily auto-oriented and shop at large “lifestyle centers.”

The third group is the “Little Guys.” They are negative towards public investment, and neutral toward public space. They focus on the present, and have fewer resources than the “Suburban Edenites.” They don’t have the vision of other groups, and are most concerned about economic survival. They insist that we “have to maintain what we have,” and are most likely to complain about leaking school roofs or potholed streets as a reason not to spend money on larger visions. Issues for them include prioritizing of spending and jobs. They shop at large “big box” retailers.

The fourth group, the “Victims,” are negative towards both public investment and public spaces. They focus on “never” and want the “people” to sort things out, without interference from the government. They are concerned most about political corruption and individual rights. They want to be left to themselves and are

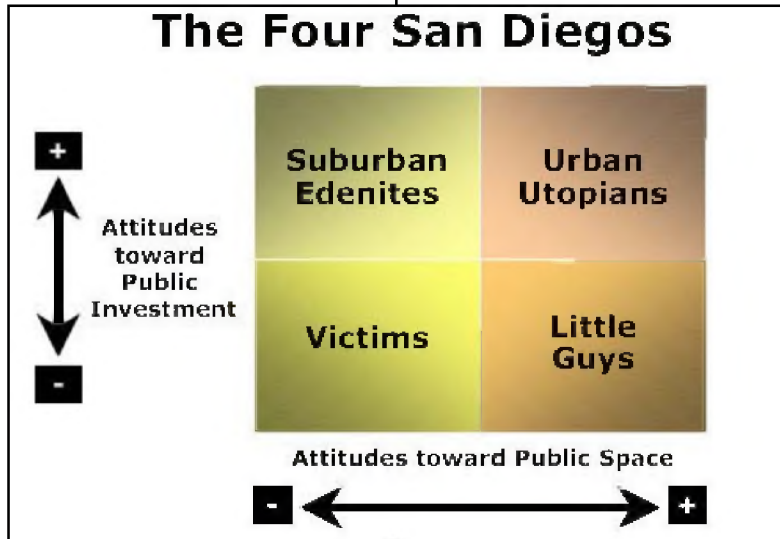
strongly auto-oriented. They likely shop at a “trusted supplier.”

It is important to understand how these groups think in order to build coalitions among the groups. An example of this can be seen in the proposal to build a new baseball park in San Diego, California. When the ballpark was first proposed, the “Urban Utopians” insisted that the new park should be downtown. The “Suburban Edenites” supported the building of a new park, but wanted to ensure that they would have a place to park when it was completed.

The “Little Guys” complained that the park should not be built at all when the schools needed more investment. The “Victims” did not support the park at all and just saw it as more “scamming of the public.” In the end, the San Diego Padres built a coalition between the “Suburban Edenites” and the “Urban Utopians” by locating the ballpark downtown, but by putting it in a park-like setting with plenty of space around it.

In this matrix of public opinion, it is crucial that coalitions be built between groups in order to successfully complete projects. Coalitions can be built horizontally on the matrix, between the “Urban Utopians” and the “Suburban Edenites” for example, or vertically, but building coalitions diagonally is incredibly difficult, if not impossible.

The challenge for transit projects is to appeal to the sensibilities of each group. In order to appeal to “Urban Utopians,” transit agencies will need to overcome modal biases. They will need to show “Suburban Edenites” the real impacts of transit investment on traffic and parking. “Little Guys” will need to see how the investment will save time and money in the long run. The “Victims” will need to be shown that the project is



San Diegans tend to cluster into four groups based on their attitudes toward public space and public investment. Image courtesy of The Mission Group.

## Regional Decision Making

cost-effective. In order to sell a large-scale transit program, the needs of each group must be understood.

The challenge for transit-oriented development will be similar. “Urban Utopians” strongly support TOD, and will be on your side. “Suburban Edenites” will need to be shown that the urban design is well-done and that the parking will work for the project. Ensuring that there are significant opportunities for locals will win over “Little Guys.” It is unclear what will help “victims” to support transit-oriented development.

In conclusion, it is essential that the visioning process occur in a public forum in order to build coalitions among groups and help the public understand the time frames of these types of projects. Planners must also take seriously the concerns of those participating, and ensure that everyone’s story gets told. A solid and well thought-out vision can have a major impact on an urban region when the public sees that vision as their own.

### Regional Decision Making: The Envision Utah Experience

Robert Grow, Envision Utah, Salt Lake City, Utah  
rgrow@omm.com

From the beginning, there was a lot of public interest in the regional visioning process of Envision Utah. The Envision Utah process began with the premise that the public has a right to choose its future and that public officials should serve that vision.

Utah faces some serious growth challenges that Envision Utah aims to help the elected officials of Utah confront. There will be more than a million new residents in Utah by 2020, and current growth patterns would consume 87% more land than is currently urbanized by that year. Water and air quality are always issues in the West, as are issues of congestion and rising personal costs.

Envision Utah conducted a values analysis to determine needs and values of the larger Utah community. They

saw values as stable and enduring, the “tides” that affect our personal choices, as opposed to the “waves.” Values are widely shared, and can create consensus among diverse groups.

Once basic values were evaluated, hundreds of meetings were held with thousands of public participants. Public awareness campaigns helped to



**Envision Utah used several scenarios to illustrate how planning choices would affect the Wasatch Front region.** Photo courtesy of Robert Grow.

educate the public and make them aware of the planning process that was occurring in their communities, and encouraged them to participate.

The outcome of many public meetings and input from many stakeholders was a basic “Quality Growth Strategy” with six overall goals: enhance air quality, increase mobility and transportation choices, preserve critical lands, conserve water resources, provide housing opportunities, and maximize efficiency in public infrastructure investments.

By working early with the public, Envision Utah hopes to build consensus for a common future founded upon widely-held and deeply felt values. This process created civic capacity both in the public and in the regional leaders to implement the Quality Growth Strategy. This process also serves to mitigate the attitude of “NIMBY” throughout the region.

The Envision Utah organization understands that growth in Utah will continue, and with better planning processes they are working too keep Utah beautiful, prosperous, and neighborly for future generations.

# Driven To Spend

**Kevin McCarty**, Surface Transportation Policy Project, Washington, D.C.  
kmccarty@transact.org

“Driven to Spend” is part of a series of reports jointly authored by the Center for Neighborhood Technology and the Surface Transportation Policy Project. The purpose of the series is to call attention to the effects of transportation costs on families, the benefits of balanced transportation systems, the opportunities to invest in choices, and the need to invest public funds differently.

Transportation expenses per household are consistently rising. Transportation now makes up 19% of a household’s budget. With the rising costs of gasoline, this percentage will surely climb. In August of 2005 there was a brief and sharp jump in the price of gasoline, selling for more than \$3.00 per gallon in many American cities. During that month, more than 7% of household income was spent on gas. This will become a bigger and bigger issue as costs continue to rise much faster than household incomes.

Studies have shown that cities that have serious sprawl problems are more expensive places to live. The country’s most sprawling cities also boast the highest per household transportation costs. This cost is also directly related to the amount of public funds that are spent on public transportation systems as compared to road spending. Cities that spend a greater percentage of their transportation budget on roads also have the highest personal transportation costs.

As Americans, we spend more than any other country on an individual household basis to get around. We

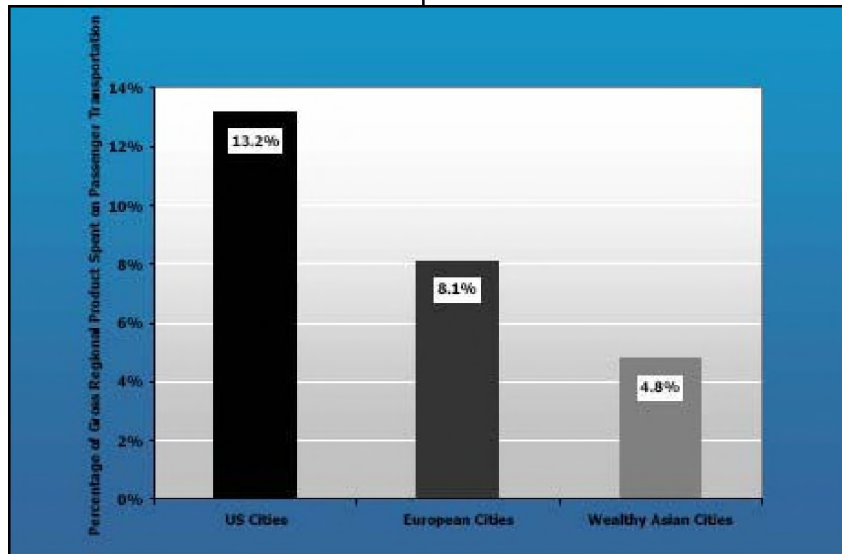


spend nearly twice what the average European does, and nearly three times more than residents of wealthy Asian cities. When costs rise, they affect the poorest families the most. Those who are below the poverty line are spending nearly 40% of their income on transportation costs.

Family and regional economics need to be made a priority. We have shifted transportation costs too far into personal economies, and two-thirds of the population is being seriously hurt financially. With high gas prices affecting everything in our economy, most states are at a point where they can no longer afford to maintain the infrastructure that has already been built, let alone add to it. The way in which we have planned our cities has created some serious economic problems. As maintenance costs increase, states will have to raise

taxes significantly to maintain roads and highways, putting more financial strain on individual families.

Key findings of the Driven to Spend report include an increase in transportation costs as a percentage of family household income. The US average is now 19% and rising. Houston area families spent the most, at 21%, and Balti-



**Americans spend more on transportation than any other nation on earth.** Image courtesy of Kevin McCarty.

more was the lowest, at 14%.

When housing and transportation costs are combined, some cities are increasing at amazing rates. The high-

## Driven To Spend

est in the nation was the Tampa area, with a combined cost of 57.7% of household income for transportation and housing. Pittsburgh is the lowest, at 45.8%. These costs are related directly to the amount of public funds invested in transit systems. Portland has lowered the average of housing and transportation costs by investing heavily in its transit system. By reducing this portion of household expenditures, a huge amount of money is saved throughout the region, and instead of pumping our funds into oil companies, regional economies are benefited.

Across the country, we are simply not having the conversation that needs to take place. Our nations leaders are looking for more reserves to temporarily dampen gas prices, when we really need to be rethinking the way that we plan our cities. Almost without exception, new developments in our cities are entirely auto-oriented. Until this changes, our complete dependence on increasingly scarce oil will continue.

The key message from this report is about transportation funding. Federal funding for transit peaked in 2000, and has been declining about \$1 billion dollars annually. For every dollar that the Federal Transporta-

tion Administration spends, the Federal Highway Administration spends more than four dollars. Our funding needs to be much more balanced.

Recommendations from the report are that we stop acting like it is “business as usual” in the transportation world. Leaders need to stop to consider options and make careful plans. We also need to start taking full advantage of the law’s flexibility with transportation dollars. Three out of four dollars in core transportation programs can lawfully be transferred over to transit programs.

As gas prices continue to increase, they may force us to do what common sense was unable to do. The nation may finally begin to listen to those who have been promoting the importance of transit for decades. Transit agencies need to take advantage of the gas problems of America to show how they can truly benefit households throughout the region that they service. Finally, our leaders may finally begin to listen to the public outcry over the corner that we have painted ourselves into with the auto-oriented planning that we have focused on for so many years.



**Our nations leaders are looking for more reserves to temporarily dampen gas prices, when we really need to be rethinking the way that we plan our cities.**

## Just the Facts: Understanding the Real Benefits of TOD

**Hanan Kivett**, DMJM+Harris, Fairfax, Virginia  
**Barbara B. Brown**, University of Utah, Salt Lake City, Utah  
**Jan Wells**, Rutgers University, New Brunswick, New Jersey  
**Mariia Zimmerman**, Reconnecting America, Washington, D.C.

### Can Drivers Become Happy Riders?

Barbara B. Brown, University of Utah, Salt Lake City, Utah  
barbara.brown@fcs.utah.edu

What is the equation for car drivers to become transit riders? Transit was a difficult sell to Utahns. There is a belief that westerners won't get out of their cars. Getting people to use transit became a behavioral challenge for transit planners in the Salt Lake City region.

An individual's first experience on a rail line is very important. It's important to understand how to 'sell' transit to commuters. Aesthetics and comfort are important factors when trying to appeal to new riders, as is the overall "good feeling" of using transit. When individuals have a reason to try out the system the first time, they are more likely to become permanent riders.

A big part of promoting Salt Lake's TRAX system to riders was the Winter Olympics in 2002. The preparation and exhibition of this big event displaced many drivers, especially University of Utah students. Construction on campus took many of the parking spaces available to students and faculty. Many students were upset by these inconveniences. A way to promote the new rail line as a reliable way to get to school was necessary. The real challenge was getting people on campus to try using the TRAX system. After the initial first rides were over, a study suggested that men were more likely to become permanent transit riders, while women would mainly split their commute between the rail line and their own private car.

It was also found that TRAX promoted a pro-Salt Lake attitude in its users. One survey respondent expressed

the feeling that TRAX made Salt Lake City "big city cool." As this feeling developed, more and more people came to support transit system expansions.

There are also measurable health benefits associated with people who use transit. TRAX was sold to riders as a comfortable, faster and more convenient way to travel. That comfort also helps to reduce the stress of



**Salt Lake's TRAX station at the University of Utah Olympic Stadium.** Photo courtesy of Barbara Brown.

commuting. The advantages of riders walking more are also apparent. It is believed that if transit riders walk to the rail station, they will be more likely to walk to other places they need to go as well. These factors will result in a better overall public health situation. The lesson learned is that getting the public to try transit early on is essential, because after the initial ride, the benefits outweigh any preconceived skepticism.

**When individuals have a reason to try out the system the first time, they are more likely to become permanent riders.**

### Indicators for Success

Jan Wells, Rutgers University, New Brunswick, New Jersey  
jawells@rci.rutgers.edu

The number one indicator for success of a transit-oriented development (TOD) is not economics; it is actually measured by quality of life. The elements that lead to the desired results of a TOD are support from government, as well as support from the community.

The state of New Jersey has attempted to support TOD

## Just the Facts: Understanding the Real Benefits of TOD

villages by setting money aside to finance these neighborhoods. The state of New Jersey now has sixteen TOD villages. The quality of these neighborhoods has been monitored by state agencies to monitor improvements as well as the challenges that they face.

The money that has been set aside for these developments can only be applied for by these sixteen transit villages. This money can be used for a number of things from street signs to lighting needs. The city board assists in determining which villages receive financing and how much funding they will receive.

One of the challenges that the construction of these villages has presented is the reluctance by existing communities to accept new housing. There is an unwillingness to develop new housing because many see added housing as bringing more school-age children. Residents are averse to housing as they see it as causing a rise in their property tax to support additional school expansions. When a situation like this occurs in a village, the funding of their projects can then be limited and audited by the city. This technique is a way of balancing development in the village.

The transit village task force faces challenges in collecting information from these districts. Many of these areas are not as technologically advanced as other regions might be. Access to computers and communicating through e-mail has become a significant part in determining the success of a TOD. It is important for these communities to be connected to their governments. The improvements are difficult to evaluate quickly, which would make it possible to evaluate the villages in “real time.”

### Reality TOD

Mariia Zimmerman, Reconnecting America, Washington, D.C.  
mzimmerman@reconnectingamerica.org

Arlington County, Virginia has had success with development along the Rosslyn-Ballston rail line. The county government took control over where to locate the tracks, so instead of building the rail line along Highway 66 like the Virginia Department of Transportation had suggested, the rail stations and tracks were laid on a declining retail street. This street had served as the County’s main street and already had retail on it and housing adjacent.



**TOD in the Arlington, Virginia’s Rosslyn Ballston Corridor.** Photo courtesy of Mariia Zimmerman.

The benefits that resulted from the new rail line occurred within the city instead of along the border. New developments along the street improved a declining downtown area and led to more community support. The development site also contributed to creation of more walkable places along the corridor. It became possible for residents to travel through the city without using a car.

Employers, day care, grocery stores, and schools were all within reach of the rail line. There developed an increased diversity of options, more choices in restaurants, housing, and shopping, and more activity on the streets and sidewalks of the corridor. On the downside, property values in the neighborhoods have dramatically increased with the development of more amenities, basically eliminating affordable housing options in the corridor.

The ultimate goal of TOD developers should be to create communities. Mixing of uses is important in creating a community that feels connected. Communities can follow the example of the Rosslyn-Ballston corridor to make neighborhoods that are walkable, connected, and more livable in their own cities.



# Property Values and Transit

**Effie S. Stallsmith**, Federal Transit Administration, Washington, D.C.

**Taiwo Jaiyeoba**, Sacramento Regional Transit Authority, Sacramento, California

**Alexander Quinn**, Bay Area Economics, Sacramento, California

**Brad Barber**, Oquirrh Institute, Salt Lake City, Utah

**Rory Campbell**, Hanson Bridgett, San Francisco, California

Many people worry that the addition of transit infrastructure to their neighborhoods and communities will adversely affect their property values. The worry that transit will hurt land value has created a negative force in communities trying to build new transit facilities. By planning early for such concerns, officials and developers can mitigate the level of resistance to transit projects and can better inform the public of the many benefits that transit brings to their community.

## Economic Impacts of Light Rail

**Rory Campbell**, Hanson Bridgett, San Francisco, California

As TOD construction gains popularity throughout the United States, more and more people will be asking the same question: how will transit affect the value of my property? Economic studies are often used when these types of concerns from the public arise. These studies work to make issues that are mainly qualitative into a quantitative issue. Studies have been conducted in areas where light rail transit has been constructed, showing the before and after effects of the transit development. These studies can be used to estimate the impacts that similar development will have in areas that have parallel characteristics.

In the case of Sacramento, many people became seriously concerned when the extension of the light rail system to connect to the airport was planned to bisect their neighborhood, especially those who were relatively new to the neighborhood. A study was commissioned to analyze the effects of light rail on property values and crime rates in similar communities in the Sacramento metropolitan area. The central purpose of the study

was to determine the differences between homeowner's perceptions about the affect on property value and appreciation rates and the actual impact on property values.

Several public councils were included in the study process in order to give them the background they would need to talk to their constituents about the impacts on their communities. In making the process open and informative, the transit authority hoped that it would aid future project developers in understanding the economic impacts of transit in the Sacramento region.



Three factors were focused on during the study: local and regional perceptions, surrounding amenities and nuisances, and comparable sales. By selecting existing corridors that had been affected by light rail transit, analysts were able to look at similar areas that had already been impacted by transit. Five neighborhoods on the Sacramento light rail system were selected, and the sales prices of properties in these neighborhoods were compared to the prices in areas further from the rail line.

A multi-regression analysis isolated distance from rail from the many factors affecting property sales price, using price per square foot as the single dependent variable. Results were made with a 95% confidence interval, meaning that results would be consistent more than 95% of the time. Overall, 1,300 individual property sales records were used from areas surrounding 14 separate rail stations in a 12 month period.

**“The conclusion of the study was that the presence of light rail in a neighborhood had no significant, measurable impact on property values in the Sacramento region.”**

The quantitative analysis found that there was no causal relationship between commercial or residential property values and proximity to a light rail station or line, at least at a 95% confidence interval. There was also no relationship found between residential appreciation rates and proximity to rail. While this study

## Property Values and Transit

may be a disappointment for many communities that are counting on significant gains in property values around rail, Sacramento was pleased with this result as it proved that the fear that rail would decrease property values was baseless.

A qualitative survey was conducted to analyze homeowner's feelings about the property that they purchased in the study neighborhoods. Real estate brokers were also interviewed to get a professional opinion on how the light rail line had affected sales. It was found that nearly half of all respondents were of the opinion that proximity to light rail would have a slight economic impact on their residential properties. More than 60% of brokers felt that there was no impact on property values; however, 77% of brokers felt that in the long run LRT would have a slightly positive impact on values.

The conclusion of the study was that the presence of light rail in a neighborhood had no significant, measurable impact on property values in the Sacramento region, but anticipated that as traffic congestion increases light rail transportation will become increasingly attractive.

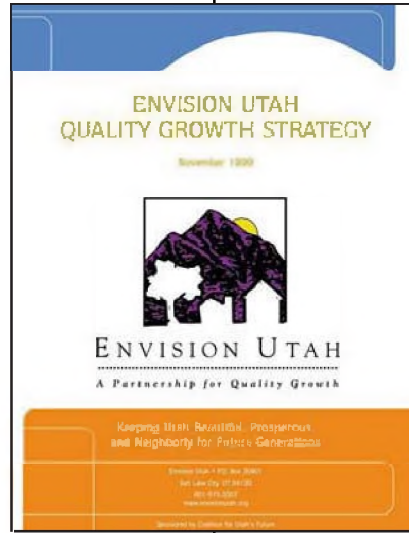
### The Role of Transit in the Regional Economy

**Brad Barber**, Oquirrh Institute, Salt Lake City, Utah  
bbarber@utah.gov

Many communities have the goal of developing a strong and sustainable regional economy, as well as a healthy environment. In order to achieve this, strong and growing property values are needed, as well as a balanced and efficient transportation system, a good quality of life, accessible recreational areas, and collaborative governance.

In August of 2005, Outside magazine named Salt Lake City as the "Number One Dream Town," citing its progressive view of sustainability, proximity to outdoor recreational areas, light rail system development, growing job opportunities, and affordable housing. While the air quality was mentioned as "problematic,"

the city was given high marks for its development and livability. Envision Utah is an organization that seeks to promote these characteristics, as well as encourage quality growth and sustainability throughout the state.



### Envision Utah's Quality Growth Strategy seeks to address Utah's rapid growth.

Utah has grown rapidly in recent years, exceeding the national average economically. As the Wasatch Region continues to grow, many choices will need to be made as to the patterns and priorities that are followed. Taxable property values have grown steadily since 2000 when the first light rail line was built in Salt Lake County. In each of the scenarios defined by Envision Utah transit is addressed differently. The scenario that includes the most ambitious transit network also consumes the least amount of land and increases value for land that is already developed.

### SAMTRANS

**Taiwo Jaiyeoba**, Sacramento Regional Transit Authority, Sacramento, California  
TJaiycoba@sacrt.com  
**Alexander Quinn**, Bay Area Economics, Sacramento, California  
a\_quinn@bae1.com

There has been a great transformation in the Bay Area with the coming of rail transit. In the entire region, access to rail transit has become critical to addressing the housing needs of a growing population. Housing has been growing up all around Bay Area Rapid Transit stations, but control of the housing form has become an issue for planners and the transit agency to address.

While it is not typical for transit authorities to act as

## Property Value and Transit

developers, this role can be very beneficial. The first benefit of being involved in the development of the site surrounding the transit stations is the ability to influence the type of growth towards being transit oriented and supporting increased ridership. Secondly, if the land is put on a long term ground lease to a developer, the transit authority will be able to secure a dependable cash flow from the development of the site.

The San Mateo County Transit Agency (SAMTRANS) was in the process of acquiring a right-of-way for connection to the BART system. The Colma Station area was a key component to connecting the local system to the regional BART network. A certain piece of property required that a large severance component be paid to an adjoining land owner in order to compensate for decrease in value for the business that was located on the property. In the end, the severance price was so high that SAMTRANS decided to purchase the entire property. As a new property owner, SAMTRANS became highly interested in the development that occurred on the property and that it support their transit goals.

Not wanting to lose control of the property, SAMTRANS decided to offer a long-term ground lease (a 50-75 year rental period) to the developer. While this type of lease is usually not attractive to a developer, the demand for property was such that several developers were still interested. The project was preplanned for 144 housing units, and a request for proposal was

issued for interested developers. Once the developer was chosen, SAMTRANS negotiated the terms of the ground lease, creating a revenue stream of \$360,000 per year. The capitalized value of the ground lease ended up returning more to the transit agency than the original property investment, and also shifted market risks away from SAMTRANS, being assumed by the developer.

Several factors were instrumental in making the project happen. The preapproval process and environmental review process was completed by the time the developer was ready to begin. The developer just had to create plans and apply for the permit without fear of public protest or environmental uncertainty. In

developing similar projects it is important that transit agencies create a situation that a developer would look for. It is much easier for the developer to begin to invest and proceed with the project if issues of approval and community input have been resolved. The property is much more valuable to a developer if the land is ready for quick development once the investment of capital begins.

This process can help transit agencies create value from otherwise dormant properties that they don't want to lose control of. Having control of the land around their systems, transit agencies can also influence the creation of retail and housing around their stations, creating viable communities that will support rail and increase ridership numbers.



**Property values in the Sacramento study were analyzed according to their proximity to transit stations.**

Image courtesy of Taiwo Jaiyeoba.



# Community Building

# Reinventing Communities

**Mariia Zimmerman**, Reconnecting America, Washington, D.C.

**Jacky Grimshaw**, Center for Neighborhood Technology, Chicago, Illinois

**Alan Jones**, Steer Davies Gleave, London, England

**David Dixon**, Goody, Clancy and Associates, Boston, Massachusetts

Over time, cities go through changes, sometimes major changes. The challenge that some of these communities face is preserving their character and identity while adapting to change. Several communities have been able to preserve the values and character of their cities while addressing new urban trends.

## Liverpool, UK: Reinventing the City

Alan Jones, Steer Davies Gleave, London, England  
alan.jones@sdgworld.net

Liverpool, England is unique for many reasons, including its age and layout. Merseytravel, the city's passenger transport authority, has been developing a Light Rail Transit system, (Merseytram) to contribute to the wider regeneration of the City-Region, particularly the historic city centre where major redevelopment initiatives are underway.

In the city centre a Merseytram City Centre Loop is planned which links the waterfront and the core of the city centre. The Loop will link to Albert Dock, a major tourist destination; the Kings Waterfront development, which includes a new arena and convention centre; and the Paradise Street development which features over 1 million sq ft of new retail and leisure floorspace. A Merseytram/bus interchange is a feature of the Para-

dise Street development where 67% of visitors are planned to arrive by non-car modes.

The Merseytram City Centre loop is also complemented by an extensive City Centre Movement Strategy

**Through careful planning and public involvement, Liverpool was able to preserve and revitalize much of its historic core while adapting to ever-changing demographics and community issues.**

which includes the removal of elevated freeways, the conversion of streets from one-way to two-way operation, the introduction of 20mph zones, and significant improvements to pedestrian public realm.'

One of the key factors in successfully implementing the new rail system was public involvement. They involved the public in every aspect of the planning and development stages. They tried to get as much feedback, positive or negative, about the plans they had for the city.

There were several factors that ultimately made the Merseytram system a success. They planned the stops around very dense residential areas, commercial and retail centers, and public facilities such as schools and hospitals. They gained a lot of support from the local government and citizens. Most

importantly, they tried to keep things as simple as possible.

Through careful planning and public involvement, Liverpool was able to preserve and revitalize much of its historic core while adapting to ever-changing demographics and community issues.



**Liverpool is undergoing a major redevelopment.**

Image courtesy of Alan Jones.

## Reinventing Communities

### Smart Growth in Industrial & Community Development

Jacky Grimshaw, Center for Neighborhood Technology, Chicago, Illinois  
jacky@cnt.org

Over time the demographic mix of cities change, as well as developmental and transportation needs. A recent study identified several communities in Cook County, Illinois that were in need of “reinventing.” These communities had high unemployment, and had opportunities for cargo-oriented development (COD) as well as transit-oriented development (TOD). The goal was to help revitalize these areas and provide them with an affordable method of transit.

There were some definite advantages to the communities in question. One of the biggest advantages was their access to existing rail lines and major highways. Because of the existing lines they were able to keep costs much lower than areas where new lines must be put in.

Another big advantage was public involvement. From the very beginning they had the support and input of the community. This aspect is more important than any other in a redevelopment project. Finding out the citizens needs, wants, and desires helps to guide the development process in a way that will be most beneficial to the community. Another result of public involvement is the sense of ownership that the citizens develop. If they want it, and get it, then they will be more likely to take care of it.

The movement and distribution of goods was of great importance to these local economies. They wanted to help preserve the character of this aspect of the community. Once again, because of their existing infrastructure and close proximity to major highways, they found this could be easily accomplished if planned correctly.

Planners developed master plans for brownfields and other areas within these communities, hoping to create

TODs for additional housing, as well as CODs to create more jobs to jump start the local economy. Through proper planning of TODs and CODs the character and identity of these communities will be preserved and they may once again flourish.

### Reinventing the Urban Village

David Dixon, Goody, Clancy and Associates, Boston, MA.  
david.dixon@goodyclancy.com

The 21st century neighborhood is developing in vastly different ways than neighborhoods from last century. Most neighborhoods from the 20th century were very homogeneous, based on people of the same race, same income, and same age. However, today a lot of neighborhoods are becoming more and more diverse in all of the same areas. Changing demographics, market forces, and values are changing urban neighborhoods. New opportunities for denser, livelier, and more livable neighborhoods are developing around the country.

Along with these diversity changes has also come a change in perspective.

There are more and more people these days that do not see the typical single-family home with large yard as what they want. There are many that value an urban condo more than a yard. What people view as the ideal house is changing.

Cities are also coming to better understand the problems with sprawl and the benefits of more compact development. Sprawl lowers people’s general health as it reduces daily physical activity. A town or city can never really support the costs of sprawl. Cities in the north eastern United States could save an estimated 40 billion dollars by using a much more compact development strategy.

As with other aspects of development, there is a great need for the community to become involved. The support and vision of the community is necessary in order to make the changes that will best benefit them. Without the proper support great ideas can fail.

**Changing demographics, market forces, and values are changing urban neighborhoods. New opportunities for denser, livelier, and more livable neighborhoods are developing around the country.**

# Weaving Transit Through Mature Neighborhoods

**Miguel Del Valle**, Transportation Management Consultant, Dallas, Texas

**Ellen Greenberg**, Freedman Tung & Bottomley, San Francisco, California

**Dan Kopple**, DPK&A Architects, Philadelphia, Pennsylvania

**Diane Georgopoulos**, MassHousing, Boston, Massachusetts

Developing rail facilities in mature neighborhoods is a challenge. In addition to navigating existing infrastructure, increasing density and changing demographics add to the challenge of weaving rail transit through mature neighborhoods. In addition to these obstacles, increased accessibility may be seen as an intrusion to a well-established neighborhood.

## How to Begin

**Ellen Greenberg**, Freedman Tung & Bottomley, San Francisco, California

ellen@ftburbandesign.com

The first question we should ask is how can transit make for a good neighbor? What steps are necessary to ensure the transit system compliments the neighborhoods existing built environment while increasing access and mobility? Placemaking is an example of one solution to this complex task. Elevating the role of transit in placemaking increases opportunity for achievement of transit-oriented development (TOD) projects. It is also essential that the suitability of proposed projects is examined. Without this consideration, chances for success are significantly decreased.

The safety of workers and the members of the community who use the transit systems is paramount to the success of any TOD project. Collisions, derailments, and possible contamination from hazardous materials are all examples of possible devastating results from

neglectful safety and stability standards. At every stage of a transit project, safety and stability of the community is essential.

Other considerations might include exposure to noise and vibration, as well as the impacts from construction and upgrade. Station layout and design are also important aspects in providing community friendly transit stations. The integration of landscape and streetscape provide for a seamless transition from the built community to the introduced transit element.

In order to introduce thriving transit development, many factors need to be addressed. Density and accessibility should be enhanced by any proposal to infuse transit design in mature areas. With proper placement and effort to reduce the negative impacts associated with TOD in urbanized areas, many projects will enjoy positive results, improving quality of life for all members of the community.

## Philadelphia's Frankford Transportation Center

**Dan Kopple**, DPK&A Architects, Philadelphia, Pennsylvania  
dpk@dpka.com

First conceived in 1910, the Frankford Transportation Center project has been a long time in the making. From that time, the project has experienced many delays. After construction began, the second World War prevented the use of steel for elevated structures and the building of the station in the fashion in which it was originally designed was no longer possible. Although the plans for the transit center were placed on hold, the surrounding neighborhood was built around the site with the intention of one day completing the project. Following the war's end, a terminal was built, but not at the scale that the original plans detailed.

The existing terminal is the focal point of the surrounding community, which is supported by the activity that

**Density and accessibility should be enhanced by any proposal to infuse transit design in mature areas.**





## Weaving Transit Through Mature Neighborhoods

the center generates. The terminal contributed to the community and improved resident's ability to commute to work, shopping districts, and downtown areas. With textiles and industry growth of the 1920's, the terminal became the life line for economic stability for a large part of the community and its members.

A project was initiated by the local transit agency in the summer of 1995 with the goal of designing a new intermodal terminal facility at the end of the Frankford portion of the Blue Line. The need for a new terminal to replace the antiquated structure was great. A key component of the Blue Line, the improvements had to not only compliment the existing fabric and function of the community, but increase economic opportunities and transit efficiency as well. The goal included arriving and departing with three minute headways to interchange with 36 bus docks and a trackless trolley system. In addition to a more efficient transit system, a 1,100-stall parking garage was included to add to the accessibility of the project.

Although the project involved a lengthy construction phase, perhaps the most challenging aspect of the design was to establish an aesthetically pleasing and comfortable structure that would significantly promote increased ridership. Furthermore, special attention was given to designing a layout conducive to transit operations with the goal of a more efficient transfer of users of the transit systems. The placing of retail space on ground level was to facilitate the commercial vitality that the center had enjoyed in the past. The preservation of the existing economic devices such as the supermarket and other retail spaces also became important factors in the redesign process.

Nearing completion, the project has since won a Merit Award from the American Institute of Architects of Philadelphia. In addition to the redesign of the transit structure, the project also has included modification to the maintenance and storage facility at the terminal. This project will be one to watch as the city measures the success of their extensive efforts to revitalize the ever important terminal known as the Frankford Transportation Center.

## Boston's Ashmont Station

Diane Georgopoulos, MassHousing, Boston, Massachusetts  
dgeorgopoulos@masshousing.com

Ashmont Station is located in the Dorchester neighborhood of Boston, Massachusetts. This renovation involved an intermodal station serving the Massachusetts Bay Transportation Authority (MTBA) commuter rail red line, as well as the Mattapan Trolley and various buses. In an effort to act as a catalyst for sensible growth, the goal of the community was to encourage TOD starting with the renovation of the transit station.

The project began after MTBA had secured funding through a bond for the intended renovation of Ashmont Station. It is important that there be a willingness at the state level to support public transit in order for this type of project to get off the ground. Sometimes, getting state support for can be a major part of the battle. The support of the Massachusetts Governor Mitt Romney has been instrumental in the creation of a master agency known as the Office of Commonwealth Development, which coordinated economic development, housing, environmental, and transportation agencies. Under this system, the main focus is an attempt to make public financing work.

MassHousing is an agency that funds these types of projects through bonds, lending money to developers soliciting assistance. In exchange for this funding, MassHousing receives a concession for affordable housing development at a rate of 80% market and 20% affordable. Another

way to insure financial ability is by introducing low-income housing tax credit incentives. These incentives are based on federal guidelines generated from population and income statistics. Due to Boston's extremely high building costs, affordable housing becomes even harder to produce at a significant rate. There is a "patch work" of sources needed for the funding of any one project dealing with affordable housing in the region.

The state also includes financial support from a TOD

**The preservation of the existing economic devices such as the supermarket and other retail spaces also became important factors in the redesign process.**

## Weaving Transit Through Mature Neighborhoods

fund targeted to offset the costs of this kind of development. Frequently, a developer would do everything possible to arrive at necessary level of financial commitment; however, ultimately there was just not enough funding to cover costs. As another option, developers are encouraged to go to the Price Foundation for additional financing under green building practices, as well as Energy Star standards. Every effort was made to work towards sustainable living. This funding source supports the development of a wider market for sustainable design principles.

Ashmont Station is currently in its final stages of design. There have been significant setbacks in funding and developer support. This results in a phase of redesign, an attempt to reconcile the difference in funding discrepancies. This is just one example of the types of road blocks that can prevent the progress of a TOD project for even the most experienced players.

One of the challenges at the Ashmont Station project has been the selection of retailers for the project. Although the idea of local business owners occupying retail space in this type of setting is favorable, finance approval guidelines limit a local stores' ability to qualify for the space. Largely based on volume of sales, funding for chain stores becomes a more desirable risk over the local small business owners. This issue calls for planners to be wary of decisions that might result in

precious revenue being lost to out of state businesses.

In the design meetings, the idea supported by the board was that the volume of the structure was to be larger than that of its surrounding context. However, there developed a delineation between the "old guard" and the "new guard". The "old guard" felt that the building should stop at eight floors. The "new guard" on the other hand felt that they should not stop at eight.



With a current split of 75% market and 25% affordable housing, the "new guard" felt that they could go much higher. One of the developers in the redesign phase is interested in placing condominiums on

the upper two or three floors. This would increase the mixed use aspect of the space and provide for a more diverse community.

With these examples, we can begin to see some of the challenges facing designers and planners trying to incorporate transit into mature urban environments. Although producing effective TOD in existing urban areas proves to be difficult, the result is an important attraction for important infill development. With innovative ideas in producing community friendly TOD, we can revitalize an area socially and economically and produce the quality of development that must be encouraged in our communities.

## Infill and Revitalization

**Kristi DeLaurentiis**, Metropolitan Planning Council, Chicago, Illinois.

**Bob Ruzzo**, MassHousing, Boston, Massachusetts

**Randy Jones**, Jones Payne Group, Boston Massachusetts

**Fran Wagstaff**, Mid-Peninsula Housing Coalition, Foster City, California

With the continuous change of urban development, there is developing a greater need to plan more efficient cities. This is an opportunity to be able to transform blighted areas of our cities into successful transit-oriented developments (TOD), adding to the city's viability without using up additional land in the suburbs or ex-urbs. Infill development is challenging, but done correctly it can transform depressed areas into desirable and livable communities.

### Reinventing the Urban Village

Randy Jones, Jones Payne Group, Boston, Massachusetts  
rjones@jonespayne.com

In order to create a successful transit-oriented development (TOD), the first step is to reconnect land use and transportation. By connecting neighborhoods to transit you will be able to get a higher share of transit users, and you will be able to implement more revitalization within mixed-use neighborhoods. To do this, it is important to have an appropriate site design with alternative modes of transportation including sidewalks and bikeways that can connect to transit. Case studies in the Boston area illustrate ways of "reinventing" the urban village.

Canton Town Center was a mixed use transit-oriented development that provided economic opportunities by incorporating housing above retail space and planning the space into an easily walkable community. The area was rezoned for increased density, and an active, mixed-use center was developed. Five new housing developments were created with transportation links to the center.

The Forest Hills Village project was an effort to transform an existing neighborhood with a transit center into a more connected TOD. Efforts were made to increase density while preserving open space. The Forest Hills Square was developed as the center of the project, and this square is now the heart of the urban village, the community crossroads, destination, and meeting place. A library and arts center in the square establishes a civic presence in the neighborhood.

In conclusion, Boston continues planning for the future, also incorporating a regional perspective. Architects, planners, and developers from different municipalities need to get on the same page to work for a successful region that promotes walkable connections to public transit and more compact redevelopment.

### Neighborhood Revitalization

Fran Wagstaff, Mid-Peninsula Housing Coalition, Foster City, California  
wagstaff@midpen-housing.org

Santa Clara, California, a suburb near Silicon Valley, is one of the most expensive areas to live in the United States. An affordable housing project was designed to incorporate affordable condos and studios near the light rail line in Santa Clara. This particular development was successful because it was financed by tax credits, tax-exempt bonds, an affordable housing program, as well as other grants and bonds.

The project was a way to infill next to the light rail in order to increase ridership. This was successful in part because they lowered the amount of parking available to tenants and supplied everyone with a transit pass. Some of the problems that the tenants faced were that even with the transit pass they were still a suburb of the valley and so most people thought that the transit line still didn't get them close enough to where they worked.

Because it is such a new idea to provide mixed-use housing and transit-oriented development near rail lines, many consultants research how they can better serve the community and the people living in their affordable housing projects. Projects across California

**It is important to have an appropriate site design with alternative modes of transportation including sidewalks and bikeways that can connect to transit.**

## Infill and Revitalization

continue to create more affordable infill housing, attempting to alleviate the ubiquitous problems of housing and transportation throughout the state.

### Does Life Really Have to Be So Hard?

Bob Ruzzo, MassHousing, Boston, Massachusetts  
ruzzo@masshousing.com

MassHousing is the state of Massachusetts' affordable housing bank. They are one of the few financial institutions that solely finance mixed-use affordable housing. The institution was created in 1966 and has financed more than six billion dollars in affordable housing. With the recent demand for housing because of lower interest rates, MassHousing has been working on a few projects that potentially can be very successful given the right circumstances.

The Amory Street Residences is a 64 unit project aimed to alleviate some housing demand in the Boston region. The project is located in Roxbury, Massachusetts where the median household income is \$27,133. The housing built is 100% affordable and is close to a transit line. MassHousing felt that it would serve as a catalyst for further neighborhood revitalization, and would complement an overall revitalization plan for the Jackson Square area.



Another project funded by MassHousing is located in Newton, Massachusetts, where the median household income is \$86,052. Arbor Point at Woodland Station has transformed a “sea of asphalt” into a vertical garage and rental housing. It is located across the street from the commuter line and light rail. The area was a park and ride lot and has now transformed into a live and ride community.

Another project is near Ashmont Station in Dorchester, Massachusetts. Ashmont station was one of the projects MassHousing supported, hoping that it would also change the face of a struggling neighborhood. The area is in poor condition, and one way to get more



**Boston's Ashmont Station.** Image courtesy Bob Ruzzo.

funding for community improvements is to provide more affordable housing in order to bring in more tax credit and subsidy sources. This particular project is also next to a transit station, and includes 105 rental units and 20,000 square feet of neighborhood retail.

MassHousing has learned many lessons regarding creation of affordable housing in the Boston region. They have found that using many subsidy sources they can reduce their risk in the development process. A possible solution to keep projects in the “affordable” range may be to create market-based condominium housing on top of affordable rental units. They recommend that any group trying to create affordable housing develop a close relationship to their local affordable housing agencies, which are located in most states. A partnership with local transit agencies is also helpful. Despite all this, one must expect the unexpected in creating these types of projects.

## How Many Ways Can You Create Ownership Housing Near Transit?

**Mark Farrar**, Millennium Partners, San Francisco, California

**Jeff Minter**, Unidev LLC, Bethesda, Maryland

**James Hencke**, PB PlaceMaking, Portland, Oregon

For most families in America today, the largest single investment they will ever make is buying a home. With the second largest monthly expense (after housing) going to transportation costs, it is only natural that planners would seek to address the issues of affordability for these two expenses. But how do you make home ownership available to a greater number of families? The goals of transit and the goals of home builders are quite different, so how do we bring these two groups together?

### Baltimore's State Center TOD

**James Hencke**, PB PlaceMaking, Portland, Oregon  
hencke@pdworld.com

The State Center transit-oriented development (TOD) consists of approximately 55 acres in Baltimore's Eutaw district. The site is located between two rail corridors, major surface streets, and viable neighborhoods. These factors create a perfect setting for successful transit oriented development.

The Maryland Department of Transportation (MDOT) owns a significant portion of the site, currently used for parking. The department saw potential for a transit-oriented development through transforming an aging office complex, the MDOT parking lots, and a 31 acre public housing complex. Site plans include over 3,000 housing units, office space, retail space (including a grocery store, cinema, and restaurants), a hotel, open space and additional parking. These characteristics, and nearby transit, can create a viable and walkable community.

The plan restores the historic street grid of the site and re-configures the current public housing into a mixed-income/mixed-ownership community of townhouses, lofts, and apartment buildings. In addition, the plan

aims to create over 5,000 jobs in the area.

Housing for the development would include 3,000 units, with a mixture of for sale and rental housing, in a diversity of types. Most of the housing was built to be rented or sold at market rates, with about 10% of the housing to be priced below market rates.

Creation of a district development corporation was key to the implementation of the State Center plan. The district development corporation brought expertise and leadership to the process. They were also responsible for facilitating the policy goals that were set and for coordinating the financing. The corporation was also responsible for attracting further private funds for the completion of the project.

Essential to the process were the clients and consultants



**Baltimore's State Center TOD will connect two rail corridors.** Photo courtesy of James Hencke.

who were passionate about trying to make Baltimore a better place to live. They could see the potential of the community and sought to capitalize on their strengths. The Maryland Department of Transportation was visionary in the leadership of the project, which made the partnership as successful as it has been.

### Pleasant Hill BART Transit Village

**Mark Farrar**, Millennium Partners, San Francisco, California  
mfarrar@millenniumptrs.com

In the long road to developing TOD, it is important that patience and perseverance prevail. The Pleasant Hill

## How Many Ways Can You Create Ownership Housing Near Transit?

BART Transit Village project of Contra Costa County, California has been a long time in coming, but it is now solidly supported and interest in the project has never been better.

The Pleasant Hill project sits in an unincorporated section of Contra Costa County, about 15 miles east of San Francisco. The development goal is “to generate new sources of income and to increase transit ridership through cooperative District-owned properties.”

The on-site Bay Area Rapid Transit (BART) station and surrounding neighborhoods provide an opportunity to create a transit oriented urban infill development. The development plan outlines a mixed-use project with 550 housing units, commercial and retail structures on leased land from the county, and convenient BART access.

The design team had many pre-existing conditions to deal with, as well as a public extremely hostile to development. One of the largest obstacles to overcome was political opposition. The site sits in an area adjacent to three counties, and each had their own development plan for the area. Although it took a lot of time, it was essential to the success of the project that all of the surrounding communities support the new development.

Parking, as with all TODs, was a big issue. The BART requirement is a 1:1 replacement for all parking stalls removed. In order to do this, a large parking structure had to be constructed, which was a large capital outlay early in the project. The redevelopment agency funded the replacement of the parking, and BART contributed the land in exchange for shared lease revenue from the project.

A charette process was undertaken, and fortunately the community and BART were open to the concepts of

new urbanism. A development code was produced in order to ensure that the new development plan was in keeping with the community-supported charette plan. Today the project is under construction, and interest in the for sale housing at the site is strong. Although the road was long, nearly ten years, the designers have a plan that the community supports and that the developer feels confident will be financially successful.

### Transit-Oriented Workforce Housing Solutions

Jeff Minter, Unidev LLC, Bethesda, Maryland

[jminter@unidevllc.com](mailto:jminter@unidevllc.com)

The goal of affordable, transit-oriented workforce housing is to provide quality housing for workers who

otherwise could not afford to rent or own a home near their workplace. Finding appropriate affordable housing near employment centers and downtowns can be difficult for moderate wage workers (primarily those employed in the service sector, social service workers, teachers, and other public employees). By planning places that are healthy, interactive, and accessible, you can create places where those in the workforce will want to live, not where they have to live.

This approach to the creation of workforce housing uses the governmental/non-profit agency as the base for creating affordable housing options. It is also essential that the housing remain affordable over the long-term, not just for the first buyer.

Funding for workforce housing projects should come from private sources enabled by non-profit agencies. Funding can be had from investment bankers, financial firms, Fannie Mae, and local governmental groups. When federal funds are taken, they come with a long list of additional requirements, which will only add to the complexity of the project. It is best to fund on the local level.



**BART's Pleasant Hill station area will be converted into a TOD that will serve the surrounding community.** Photo courtesy of Mark Farrar & McLarand, Vasquez, Emsiek, & Partners.

## How Many Ways Can You Create Ownership Housing Near Transit?

Many agencies choose to use a ground lease ownership structure. This means simply that the agency retains ownership of the land, but gives the homeowner a long-term lease on the land on which the home is built. There are several benefits from this type of leasing. First of all, since the homeowner is not paying for the land, home prices are usually 20% less than market price. The agency also retains control over the financing of the home, which allows them to keep control over development and affordability of the homes in the project. The agency can then control the unit price appreciation and has a say in the resale process. It also gives the agency an income stream that can be used for future developments.



**Key to creating affordable housing is blending it with the neighborhood so it is not seen as low-income housing.** Image courtesy of Jeff Minter.

Usually, projects that focus on workforce housing are located in areas that have a serious affordability gap. The affordability gap represents the difference between the annual income needed to purchase a median priced home in an area and the median income of that area. Public employees often earn much less than the area median income.

Such is the case in Hawaii, where home price appreciation far outpaces the growth in median income. In 2004 the median family income in Ewa Beach, Hawaii was \$56,300. Firefighters, police officers, teachers,

and medical assistants all made significantly less than the median income. The median home price in this area was \$699,000. By subtracting the median income from the income needed to qualify for the home (\$167,000), you get the “affordability gap” of \$111,000.

By using tools for creating affordable housing, such as ground leasing, tax exempt construction loans, reduction of developer’s profit, and interest rate reduction, the home price can be reduced by 20-30%, which reduces the income needed to purchase the home by 40-50%. In the case of Ewa Beach, Hawaii, planners were able to reduce the annual income required for home purchase by \$64,000, and the total down payment needed to \$6,700, well within reach

of a public worker in the area.

In conclusion, this type of program works well for any type of landholder, particularly non-profit governmental entities. It can provide mortgage financing and assistance for homeowners and will produce substantial benefits for the owner of the land and the new home owner.

# The Kinder Gentler Road: Context Sensitive Solutions

**Angelo Papastamos**, Utah Department of Transportation,  
Salt Lake City, Utah

**John McNamara**, DMJM Harris Planning,  
Phoenix, Arizona

**Emily Drennen**, Bay Area Air Quality Management,  
San Francisco, California

**Barbara McCann**, McCann Consulting, Washington, D.C.

Context sensitive solutions (CSS) is a philosophy that guides transportation agencies wherein safe transportation solutions are planned, designed, constructed, and maintained in harmony with the community and the environment. By implementing context sensitive solutions, new road projects will experience more community support and more efficient outcomes. These types of solutions will also be more effective in creating communities that are more livable for all residents.

## Complete the Streets

**Barbara McCann**, McCann Consulting, Washington, D.C.

barbara@bmccann.net

Creating safe, comfortable, and convenient streets for all modes of transportation is the goal of the Complete the Streets Committee. This committee is composed of several members, including America Bikes, America Walks, the American Society of Landscape Architects, the American Planning Association, Smart Growth America, and the American Association of Retired Persons.

Most of America's streets today are inadequate. Nearly one-quarter of all walking trips take place on roads without sidewalks or shoulders, and bike lanes are available for only about 5% of bike trips. The most frequent complaints are that there are too few side-

walks, that auto drivers are insensitive to other modes of transportation, and that road surfaces are hostile on non-auto users.

A complete streets policy ensures that the entire right of way is routinely designed and operated to enable safe access for all users. The US Department of Transportation now recognizes the need for a complete streets policy, and in 2000 put out a new policy that states that bicycle and pedestrian ways shall be established in all new construction or reconstruction projects except where prohibited by law, is too costly, or where there is an absence of need. The intent of this policy is that streets designed to serve all users becomes the norm, instead of the exception.

The Thunderhead Alliance has issued a report on cities with "complete streets" policies. There are about two dozen jurisdictions with some sort of "complete streets" policy, and most of them only cover bicycle and pedestrian uses. Portland has one of the most forward thinking policies, which applies to all jurisdictions in the region. It requires complete streets in new construction, and devotes 1% of state transportation dollars to pedestrian and bicycle improvements.

Boulder, Colorado is now designing all its arterials as multimodal corridors. In Columbus, Ohio, projects must show accommodation for pedestrians and bicyclists in order to receive funding. Santa Barbara, California now has bike lanes or paved shoulders on 67% of its arterials. There is growing support across the country for complete streets in our communities.

There are many benefits of complete streets. Designing an intersection for pedestrian travel can reduce pedestrian risk by 28%. For older Americans, complete streets are essential. More than 20% of Americans over the age of 65 do not drive. More than 50%



**"Complete streets" plan for all modes of transportation.** Photo courtesy of Barbara McCann.



## The Kinder Gentler Road: Context Sensitive Solutions

of these people say they stay at home on a given day because they lack transportation options. Complete streets also promote walking, which encourages more healthy lifestyles. Residents of neighborhoods with sidewalks are 65% more likely to walk on their own streets.

People with disabilities are also benefited by complete streets. More than 20% of Americans have a disability that limits their daily activities. Complete streets with curb cuts and other features reduce isolation and encourages independence for those with differing abilities. A complete streets policy can also reduce traffic in our communities. Of all trips taken in metropolitan areas in America, 28% are one mile or less. With complete pedestrian and bicycle networks, traffic can be significantly reduced as people are given the option of not using their car.

The Complete Streets committee is currently in the midst of a three-year campaign to spread the word to help communities implement these policies. For more information on how you can help your community become complete, go to [www.completestreets.org](http://www.completestreets.org).

### Economic Effects of Traffic Calming

**Emily Drennen**, Bay Area Air Quality Management,  
San Francisco, California  
[bicyclesf@yahoo.com](mailto:bicyclesf@yahoo.com)

Traffic calming aims to reclaim public space through engineering tools that reduce auto speed and create safer streets for pedestrians, bicyclists, transit riders, and other road users. Most well-known examples of this relatively new engineering trend include speed bumps, pedestrian countdown signals, street trees, and bike lanes.

Small businesses are often the most vocal opponents to traffic calming because of fear of change and lost revenues. If there is enough small business opposition projects can be stopped altogether. However, some research shows that traffic calming projects can actually improve business. If business owners could learn

about these benefits, traffic calming projects could be approved more quickly, with less cost and hassle, and with more community support. This would increase safety and livability in our communities much more effectively.



A recent research project was completed in order to develop more appropriate outreach materials to small businesses to reduce opposition to traffic calming projects. Valencia Street is

in San Francisco's Mission District, a primarily low-income, working-class, and immigrant neighborhood. The street has a lot of pedestrian, bus, bike, and auto activity along its length, and the vast majority of developments are mixed-use, with residential units over street-level retail. The project analyzed how merchants on Valencia Street were impacted by bike lanes four years after installation

Prior to the installation of the bike lanes in March 1999, Valencia Street had two auto traffic lanes in each direction. The street was then converted into one traffic lane and bike lane in each direction, with a turning lane down the middle of the road. Curbside parking was not impacted.

The research surveyed businesses with storefronts with customers coming in from the street, such as services, food, or retail. It did not include residential, office, industrial, or other commercial types. The intent was to analyze businesses that relied on pulling in people off the street.

There were 122 eligible businesses that fell into this category, and 27 were interviewed (a 22% sampling). Of the businesses surveyed, the average time they have been located on Valencia Street was 11.7 years. The long tenures represented by these results lend validity to the responses in this survey.

The vast majority of the interviewees expressed support for the bike lanes. Sixty-five percent of the merchants believed that the bike lanes have had a generally positive impact on their business and only one

## The Kinder Gentler Road: Context Sensitive Solutions

merchant said that the bike lanes had a negative effect “but only very faintly so.”

Sixty-five percent also said that they would support more traffic calming on Valencia Street, and none were opposed to the idea of more traffic calming. Several merchants thought that Valencia Street didn’t need any more traffic calming, but were supportive of the concept.

Traffic calming can increase residential and commercial property values, which attracts wealthier residents to the area and can increase retail sales and bring economic revitalization to a commercial corridor. Traffic calming also creates more attractive environments, reduces auto speed, and increases safety for pedestrians, bicyclists, drivers, and other users of the street, which is good for business.

Traffic calming encourages local residents to buy in their own neighborhoods, and also attracts customers from a wider area due to reduced travel time, hassle, and cost. Traffic calming can also help people live less car-dependent lifestyles, which will increase the amount of discretionary income they can spend on things other than transportation.

Most businesses are concerned about the quality and quantity of customer parking and access for delivery trucks. Finding the right amount and type of parking supply is key. Poor bicycle, pedestrian, and transit conditions can harm businesses by losing worker time and productivity to gridlock, and by impairing employee recruitment. Conversely, improved transportation facilities can provide more convenience for employees. Most traffic calming projects often require only minimal “down time” for construction, and most do not require any investment from business owners.

Nearly three-quarters of those surveyed on Valencia Street thought that the bike lanes increased the street’s attractiveness. Surprising percentages of merchants reported that reduced auto speed (46%) and increased congestion (41%) were good conditions for business.

Fifty-six percent of merchants believed that the bike lanes encouraged area residents to do more of their

shopping locally, while 44% thought that the bike lanes attracted new customers from outside of the area

Even though very few merchants thought that the bike lanes had any negative effect on their business, it should be noted that nearly all of them mentioned the importance of customer parking to their businesses.

Over two-thirds thought that the bike lanes increased convenience for their employees, and 77% of the interviewees thought that the construction of the bike lanes had “no effect” on their businesses, or didn’t remember/know about the construction.

Outreach brochures and public presentations should be developed for an audience of urban small businesses, which should provide general information about traffic calming, information about how traffic calming has affected other merchants, and how the proposed project would specifically impact their businesses. Business owners could then use this information to make informed decisions.

Hopefully, information of this kind will reduce initial opposition and increase community support for traffic calming projects. This could, in turn, reduce the time and costs required for project implementation, which could then increase the number and scope of traffic calming projects a jurisdiction is able to complete.

### State Route 179

John McNamara, DMJM Harris Planning, Phoenix, Arizona  
john.mcnamara@dmjmharris.com

Running through the most scenic country in America according to USA Today magazine, State Route 179 is undergoing a major renovation process. In 2002 a four lane freeway was proposed to replace a segment of State Route 179 to meet the growing traffic needs of more than four million visitors per year in the red rock country of Sedona, Arizona. The solution did not pay attention to the context in which it was planned, and gave little regard to the surrounding land uses and environment.

In November of 2002 a community group calling themselves the Voice of Choice threatened to sue the Arizona Department of Transportation over the proposal.

## The Kinder Gentler Road: Context Sensitive Solutions

Ultimately it was decided to start the project over with a needs based implementation plan, using a planning process that would put all stakeholder groups on an equal footing and embrace the principles of CSS.

Stakeholders for the project included the Federal Highway Administration (FHA), the Coconino National Forest, the Arizona Department of Transportation, Coconino County, Yavapai County, the City of Sedona, and the Big Park Regional Coordinating Council. Involving community members, the single purpose of the project was to reach consensus on the planning, design, and construction of SR 179.

It was determined that a context sensitive solution would be absolutely essential for this project's success. A context sensitive solution is defined as one that addresses the transportation need, becomes a community asset, and is also compatible with the natural and built environment. Implementation of a context sensitive solution would have minimal impacts, would be aesthetically integrated, would be safe and feasible, and would involve community members and stakeholders in a collaborative planning and design effort.

As part of the needs based implementation plan, four teams were established, including an executive team (made up of two members from each stakeholder group), a public outreach team, a project management team, and an Arizona DOT technical team.

The entire process was multidisciplinary from concept to construction. All planning, design, and construction observation was done by one multidisciplinary team through a collaborative decision making process. Transportation planners were involved, as were engineers, urban designers, landscape architects, graphic artists, environmental specialists, and public outreach facilitators.

During Phase 1 it was defined how decisions would be made, and who would make those decisions, and public outreach was emphasized throughout the decision-making process. Focus groups were held and key community leaders were involved. Public debate was invited that would inform the rest of the process.



**Public workshops produced solutions to various issues surrounding the reconstruction of state route 179.** Photo courtesy of John McNamara.

Phase 2 was composed of a community design charrette process. These were multi-day events with an initial corridor tour and continual feedback. During the first

charrette, core values were identified, which became the basis of the project vision statement. These included walkability, sustainability, connectivity, character, scenic beauty, public safety, environmental protection, multi-purpose, context sensitivity, multi-modal, footprint, regional coordination, and economic sustainability. The second charrette was a gaming workshop, where groups developed 4-6 concepts for the ten-mile corridor. Facilitated by planners, this charrette produced 80 different planning concepts. A series of screening workshops sifted the planning concepts down to three final selections. The last charrette was attended by more than one thousand people, and each plan was described and illustrated thoroughly. Participants were asked to select their preferred concept, prioritized by segments from the three finalists.

The result of this process was a preferred concept plan that everyone could feel they had a part in. The preferred concept plan included a two lane corridor with scenic pullouts, round-about intersections, accommodations for a new shuttle transit system, and continuous bikeway and pedestrian facilities. While this process was much longer and more expensive than the original planning for SR 179, the final product was much more sensitive to the surrounding area, and most importantly, was strongly supported by the public. Construction on the project began in January 2006.

## Housing Development: Collaborations and Quarrels

**Ron Stewart**, Zimmer Gunsul Frasca, Portland, Oregon  
**Gita Dev**, Dev Architects, San Francisco, California  
**Samantha DeKoven**, Metropolitan Planning Council,  
Chicago, Illinois

There is a growing disparity between an area's housing prices and the ability of local workers to afford to live near work. This disparity has had an impact on businesses across the country, and measures have been taken by the business sectors in Chicago and the San Francisco Bay Area to close the housing affordability gap. These measures included providing employee housing benefits, advocating for affordable workforce housing, and using economic influence to guide policy decisions.

As the value of housing around economic and business centers continues to increase, employees working in these centers often cannot afford to live near their place of employment. Partnerships have formed between employers and communities, and employees have generated increased need for affordable housing. In some cases, the business community has emerged as a strong advocate for affordable housing.

### **Chicago's Employer Assisted Housing Program**

**Samantha DeKoven**, Metropolitan Planning Council,  
Chicago, Illinois  
sdekoven@metroplanning.org

In many areas of metropolitan Chicago, job and population growth have outpaced the growth in affordable workforce housing. Affordable housing is defined by the government as housing that costs less than 30% of a worker's monthly income. Housing costs are more than many working families can afford. Further, in the Chicago area the number of rental properties has declined through condominium conversion and lack of new construction, exacerbating the housing problems in the region.

The disparate growth rates between jobs and affordable housing have forced workers to live further away in more affordable areas, which increases transportation costs in both time and money. As a result, employee commute times in the Chicago region have increased ten percent in the last decade, and employees spend approximately one extra work-week per year in traffic. This adversely affects employee morale and increases employee tardiness and absenteeism. Often, these effects lead to higher turnover rates, which translate into higher recruitment and training costs for employers.

Employer-Assisted Housing (EAH) is a cost-effective way employers can help their employees with housing. EAH is "an employer-provided, easy-to-administer benefit that helps employees buy or rent a home closer to work." Each EAH plan is customized for the

**The focus of employer assisted housing is to encourage employees to live near work and strengthen the surrounding community.**

employer and their workforce and may include any combination of the following: employee counseling about home ownership and financing, financial help

with closing costs, mortgage assistance, rental assistance, employee savings plans, forgivable loans, and so on. The focus of EAH is to leverage private sector investment in housing solutions that encourage employees to live near work and strengthen the surrounding community. At the same time, employers benefit from improved loyalty, reduced turnover, and related savings.

The State of Illinois encourages EAH by providing tax credits for employers and matching funds for employees. The state offers employers a tax credit of \$0.50 for each \$1.00 invested in EAH for homeownership and rental programs. For employees, the state will match \$1.00 for each \$1.00 of down payment and closing cost assistance provided by an employer to an employee. The state will also reimburse some counseling costs for successful purchases. In order to receive state matching funds, the buyer's household income is restricted to 80 percent of the area median income.

The tax credits and savings from increased employee retention make the net cost of an EAH program significantly lower than the employer's expenditure. An

## Housing Development: Collaborations and Quarrels

employer can help 20 employees buy new homes with just \$30,000 (after taking into account the tax benefits). This is extremely cost-effective when compared to the high costs of turnover.

One success story in the Chicago area is System Sensor, a manufacturing company. A housing program, implemented by the nonprofit Joseph Corporation, has helped more than 60 employees buy their own homes in the area. The company saved \$100,000 in yearly costs due to reduced turnover, absenteeism, and tardiness. Newsweek did a story on the company's housing program, which was the kind of high-profile free publicity that any company would love. The owner of the company ended up selling the company and dedicating his time to organizations advancing workforce housing solutions.

The Metropolitan Planning Council has learned key lessons about employer-assisted housing. First, engage a nonprofit housing counseling organization to remove the hassles of administration from the employer and provide employees with homebuyer counseling. In addition, partner with local government to leverage existing homebuyer assistance programs for buyers needing deeper subsidy.

By engaging business leaders in housing issues, they learn the value of affordable housing and can become key spokespeople supporting policy change. As federal funding for affordable housing is threatened, public-private partnerships like employer-assisted housing will become more important to communities and families. EAH is a promising strategy to supplement government resources and maintain needed support for affordable housing.

### Housing as Linchpin for Sustainable Growth

Gita Dev, Dev Architects, San Francisco, California

gd@devarchitects.com

A regional approach has been used in the San Francisco area to promote smart growth. As in Chicago, employers noticed the lack of affordable workforce housing around the Bay Area. In addition, some employers have started to move out of the region because their employees cannot afford to live within a reasonable commuting distance.



Employers in the Bay Area have formed regional organizations to assist in solving the affordable workforce housing programs: the Bay Area Council, the San Francisco Housing Action Coalition, and the Silicon Valley Leadership Group.

The Bay Area Council (BAC) is an organization of business and community leaders that focuses on legislative advocacy. Created in 1945, they now claim 275 of the largest employers in the region as members. Their mission is to mobilize business leadership in the region on key issues that will affect the quality of life and business climate in the Bay Area. They educate business leaders on governmental legislation that will improve housing supply and support transit-oriented development. BAC recognizes that the housing crisis has negative impacts not just quality of life, but also on the economic competitiveness of the San Francisco region.

BAC advocates for a housing and job balance, adequate housing supply in all areas, and publishes the "Bay Area Housing Profile" each year. This profile is an annual report card for local communities to let them



### Many employer assisted housing programs include education on housing finance.

Photo courtesy of Samantha DeKoven.

## Housing Development: Collaborations and Quarrels

know how well they are addressing the affordable housing job balance. Further, BAC has established the Bay Area Smart Growth Fund, which is a \$66 million real-estate equity fund. This fund is evaluated with a “double bottom-line,” using financial as well as social factors. The fund is used to develop new housing stock and created new jobs.

The San Francisco Housing Action Coalition promotes a pro-housing culture in the city of San Francisco. The coalition has three areas of focus: advocacy, endorsements, and education. Coalition members advocate for changing local land use policies to encourage affordable workforce housing. The coalition may choose, for example, to “endorse” and advocate for a specific new development. This provides needed support for a developer to get a project approved.

The coalition provides needed community education and outreach to inform the public on housing issues. They also provide assistance to neighborhood associations faced with development and arrange tours to foster common ground in the community. These tours show skeptical neighborhood associations what affordable workforce housing actually looks like, and that is will not be a blight on their community.

The Silicon Valley Leadership Group is an organization of the largest Silicon Valley employers. Begun by David Packard (of Hewlett-Packard) in 1977, its intent was to create a voice for businesses in the area. Their core mission is to actively work with government groups to find innovative solutions to transportation, housing, education, and environmental challenges. The strong business interests represented in this hands-on organization make it more effective than other organizations in the Bay Area. Because of its economic influence, this organization can persuade elected policy makers more effectively when it advocates for affordable workforce housing and transportation infrastructure near employment centers.



Making housing affordable strengthens neighborhoods, benefits employees financially, and benefits employers through better employee retention and morale. These case studies show how local business can organize, influence, advocate, and create partnerships to influence the development of a community and provide more affordable housing in the region. Cities with similar issues of housing and transportation affordability can follow the examples of these groups to improve the economic and social viability of their communities.

## TOD and Work: It's a Real Connection

**Mary Leary**, George Mason University, Fairfax, Virginia

**Robert Hodder**, AARP Public Policy Institute,  
Washington, D.C.

**Steve Raney**, Cities 21, Palo Alto, California

**Karla Karash**, TranSystems Corporation,  
Medford, Massachusetts

### How Transit Choices are Made

**Karla Karash**, TranSystems Corporation, Medford,  
Massachusetts

khkarash@transystems.com

A recent study analyzed how people make choices regarding housing location and transportation choice. The objective of the study was to understand the decision making process in order to provide practical advice for transit agencies. Two sets of focus groups were used, one set aged 20-30, and an older set aged 55 and above. An Internet panel was also surveyed. This panel was composed of 865 participants, all of which are considering moving or have moved in the last two years and also live in a metropolitan area with good rail transit service.

The surveys covered questions about neighborhoods, jobs, psychology and other relevant information on transit and work. After this, a model was developed according to the survey responses. From the model, a basic understanding of motivators for living in a transit oriented development (TOD) was established. Highest on the motivation list for choosing a compact neighborhood was the importance of the opinions of other people such as family and friends. Other factors include proximity to shopping, affordability, being able to rely on fewer cars, proximity to transit, and being able to be friends with neighbors.

A few things were also learned about connections to work. A change in job or school location was a significant reason for moving for 32 percent of survey respondents. Fifty-three percent of respondents answered that their commute distance was a significant reason for selecting their current home over others available. However, over

45 percent of the respondents lived 10 or more miles away from work, even though they rated their commute distance as not very convenient. Although those living in TODs lived closer to work on average than those in more suburban neighborhoods, around a third of those in TODs also lived 10 or more miles from work.

Another important factor in why people choose to live in TODs is their level of "green values." Survey responders were asked to say whether they agreed or disagreed with 17 statements. These statements included environmental judgements such as "Protecting the environment should be given top priority, even if it means an increase in taxes." Other statements were positive statements about moving to a TOD and about staying active. The sample was split into two groups—the high green values group and the low green values group. The results showed that 70 percent of the people who lived in TODs were in the high green values group whereas 48 percent of the people in suburban/rural communities were in the high green values group.

Sixty percent of the respondents living in TODs either walked or took transit to work compared to 36 percent of the respondents who lived in non-TOD areas. Within TODs 66 percent of the respondents in the high green value group walked or took transit to work versus 44 percent of the respondents in the low green value group. When the trips were not involving work, the TOD residents were two and a half times more likely to walk or take transit than the non-TOD residents.

From all this data, we can conclude that a person's behavior in using transit depends on their values and also on the location of their home. It was found that a large group of people have positive attitudes towards some aspects of urban living, and that many of these same people might be called "pro-environment."

### Preferred Employer Assisted Housing and Low Income Upward Mobility

**Steve Raney**, Cities 21, Palo Alto, California  
steve\_raney@cities21.org

Transit can improve the quality of life for many people, but the most cost-effective peak hour trip reduction

**Cities continue to attempt to build themselves out of congestion problems, but the opposite result is being seen more and more in our communities due to increasing commute distances.**

## TOD and Work: It's a Real Connection

scheme will be a shift in housing location for workers. New programs are being developed by Cities21 to influence better housing location and mitigate the traffic congestion problems that are choking our cities. A primary goal of Cities21 is to transform suburbs in order to make them better places to live for the next generation. Funding was provided by the federal government in order to encourage innovative solutions to housing issues that many cities are facing.

The underlying question for these programs is how do we change behavior to be more sustainable? Many factors determine housing choice, and these programs help to push commute distance to work higher up that list. These programs advocate development of "compact neighborhoods" which are defined as housing that is within one-half mile of employment. With shorter commute times our streets will be significantly less congested.

Many complain that a principle issue is that we simply don't have innovative housing choices. The home building industry has no genuine innovation, with no truly meaningful improvements to their product offered to the customer. Housing is largely mass produced, and homes, unlike cars or clothing, don't vary much according to personal preferences. These programs advocate for apartments and condos located in well connected communities with very short commutes.

The ideal would be that work would be so close to home that walking would be a real transportation choice. "Co-locating" home and work will reduce yearly commute miles across the nation. The average today is 7,500 miles of commute distance each year. Cities continue to attempt to build themselves out of congestion problems, but the opposite result is being seen more and more in our communities due to increasing commute distances.

There are three steps to the Preferred Employer Assisted Housing (PEAH) program. First of all, a city agrees to a preference scheme designating qualifications for households to achieve preferred status and financial incentives for developers who adopt such schemes. Next, applicable rental or for-sale housing units are priced to ensure high demand. Lastly, "preferred" people are granted priority for those housing units and move in. Similar to programs giving teachers and police officers

preference in housing selection, this program gives preference based on commute impact.

PEAH can be applied relatively easily to suburban office parks. The greatest outcomes would be realized from suburbs with expensive housing and serious congestion problems. Office parks have large parking lots that have been serving as "land banks" for future development for years, and several urban designers around the country are being employed to convert these parks into housing for workers employed inside the office park. Some have suggested that co-location of housing and employment will happen in the long-run, but recent trends have shown that such is not the case in many cities. The average work commute today is increasing, thus the jobs/housing mismatch continues to grow. PEAH hopes to reverse this trend.

Programs such as PEAH hope to develop a win-win situation for all interested groups. Employees would benefit by decrease in commute time, reducing transportation costs and time stuck in traffic. Cities would benefit from reduced demand on public infrastructure, allowing them to put funds into other programs. Employers would benefit from reduced employee turnover. With a better quality of life due to more free time, employees will be more likely to stay at the job. Developers will profit from the program due to lowered traffic mitigation fees and construction costs in established areas. With some developers paying more than \$4,000 per unit in traffic impact fees, the savings will be very real in new communities with short commute distances.

The Low Income Upward Mobility (LIUM) program serves to solve the housing affordability crisis. The program will work hand-in-hand with the PEAH program to provide conveniently located housing to workers in lower paid jobs. The LIUM program also combines job training and education for low income households. The program will help low income residents who work in affluent communities to be able to afford to live in those same communities. Thus, each community will be able to 'house its own.'

This program also encourages good commutes. Those with the shortest commutes are given preference to those with longer commutes. Also, if someone changes jobs there is a \$100 change in association fees, termed as a



## TOD and Work: It's a Real Connection

“commute mitigation tax.” This serves as a financial irritant to encourage those that have increased their commute distance to move out of the community into a more effectively co-located housing unit, but it also encourages those with short commutes to stay where they are.

It is anticipated that the LIUM program, in conjunction with the PEAH program, will also help increase equality, stop discrimination, and increase diversity in many communities. For the people who would live in these communities there would be numerous benefits including less isolation, better air to breathe, more money to spend on things other than transportation, and added free time for other activities.

There is definitely a need to end sprawl and long commutes that are becoming an epidemic in this country today. Employers and local governments should get involved to ensure that policies are implemented and enforced. In doing this, communities will become more livable, sustainable, and economically feasible.

For more information on active proposals and research, please see: <http://www.cities21.org/workerHsng.htm>

### AARP

**Robert Hodder**, AARP Public Policy Institute,  
Washington, D.C.  
[rhodder@aarp.org](mailto:rhodder@aarp.org)

The American Association of Retired Persons (AARP) is a nonprofit organization that helps people over the age of 50 have independence, choice, and control in ways that are beneficial and affordable to them and to society as a whole. AARP has a ten-year strategic plan to pursue a social impact agenda, which includes social security reform, health care reform, and support for development of more livable communities.

Age demographics show that the population of persons over the age of 50 is projected to double by 2050 and the population of persons over 65 is projected to double by 2030. The built environment is auto centered, has a lack of alternative modes of transportation and services, and is based on segregated land expansion. The built envi-

ronment does not suit the twenty percent of people over 65 who do not drive. Those in the baby boom generation are reaching this status and society has an interest in accommodating them.

Sixty-five percent of all people who are at retirement age now are still working. More people are retiring later for similar reasons. One-third of all people who retire go back to work because of financial issues. Half of these people reported that they are forced to return to work due to health expenses, one-third of them confessed that they did not save enough for retirement, and another third said they started saving too late.

There is a sharp decrease in people older than 75 years who continue to drive. While some are forced to stop driving due to safety concerns, most choose not to drive. For those who do not drive, their only other transportation choice is to be a passenger in a car. Since this is not always convenient, they often cannot do things on their own as much as they would like. Many elderly who cannot drive feel that they are isolated from the community when it comes to working, social activities and shopping.

Transit-oriented development is a viable solution for many older Americans. TOD focuses on the “Four D’s”: density, diversity, design, and distance. Diversity and density provides “eyes on the street,” which increases safety and reduces crime. Some design and distance principles include building around transit, mixing uses, creating a community identity, making the development pedestrian friendly, and enhancing recreational availability. The key point is to allow a person to “age in a place.” The design of a community will determine whether an elderly person can live independently.

An aging population is a global phenomenon. As our populations lose the ability to move independently, we must provide communities that are better planned to accommodate older residents. With a little forethought and solid design practices, we can create more livable communities for everyone, not just the elderly. In this way, we can not only live longer than ever before, but also better than ever.

# Keeping Our Children Moving

**Lavinia Gordon**, City of Portland, Oregon

**Jacky Kennedy**, Green Communities Canada, Toronto, Ontario, Canada  
info@saferoutestoschool.ca

Green Communities was formed in 1996 in Canada and serves as a nonprofit organization that delivers innovative environmental programs and services through household and community participation to promote healthier environments. Green Communities supports organizations working to attain environmental sustainability; including healthy ecosystems, sustainable resource use, clean air, water and soil. In 2005 their name was changed to Green Communities Canada to reflect the organization's national range. This organization has many different programs designed to target specific areas of environmental concern.

The Active Safe Routes to School (ASRTS) program began in 1996 as a private project in Toronto with only three schools participating. Over the past nine years the program has grown to over one thousand schools. It is now in eighteen Ontario communities and is now supported by Green Communities Canada. The community has noticed the positive effect from this program and in turn ASRTS is supported by a number of local entities including school boards, public health units, transportation staff, politicians, police, and the media.

ASRTS promotes safe, healthy, and environmentally friendly ways for children to get to and from school. By planning communities around the automobile and not around people, planners are creating a lack of safety on the streets. Directly related to these planning methods, many community schools are closing and forcing dependency on school buses and parents to chauffeur their children long dis-

tances to school. When communities are planned only for adults (the automobile), then children are forced to be reliant on their parents or other adults to get around their neighborhoods. Too often planners do not consider the mobility of children in our communities.

In the 1960's, 70% of children in Canada walked or cycled to school. By 2000 that number had decreased dramatically to 13%. Statistics show that only 1 in 4 children are active and become less active as they advance to high school. Studies have shown that there is a direct link between physical activity and academic performance in children.

**Studies have show that there is a direct link between physical activity and academic performance in children.**

Vehicle use is at an all time high. In fact, most commute patterns to and from school contribute to the

75% of vehicle trips in a day that are less than one mile in distance. More and more people are being forced to use vehicles due to the non-walkability of their communities or the inconvenience of walking. This habit can create a hazardous environment for children and communities. A more sedentary lifestyle as well as decreased air quality are particularly harmful to our children.

In 2002 ASRTS launched "Stepping Out," a three year pilot project performed in ten Ontario communities to test the efficacy of providing seed funds to communities for initiating ASRTS programs. The project created stronger ties in communities, increased physical activity, reduced air pollution by eliminating 58 tons of green house gas emissions and addressed traffic and safety issues. At least 510 schools in 22 districts participated, amounting to more than 220,000 students.



ASRTS's approach to implementing these programs was to start with small steps. In the first phase of the program people are asked to make simple and small choices that will add up to big changes over time. We all need time to get over our addiction to cars, and by making incremental changes we can achieve this.

## Keeping Our Children Moving

The Stepping Out program runs on a school year schedule. In the fall the program is started with International Walk to School Week for participating schools. The next month “Walking Wednesdays” are started, where students are encouraged to walk together in groups first once monthly, then once a week. “Walking School Bus” organization begins in the spring of the school year, once students are regularly walking to school. A walking school bus is an organization of parents that arrange for their children to walk to school together, accompanied by two adults. The walking school bus makes scheduled “stops” along a defined route where children can wait to meet up with their classmates. ASRTS hopes that once parents have developed a trusting relationship with one another, they will begin to have a walking school bus more regularly than once a week.

In 2005 ASRTS launched the I Walk Club in Ontario, Canada. The goal of the I Walk Club is to reduce vehicle emissions, encourage physical activity, and promote healthy lifestyles. Schools across the world were connected through this program with the goal of “walking around the world.” In the 83 schools that participated, students kept track of the distances that they were walking each week, and that distance was mapped in order to show how far the school was “walking together.” When all of the schools calculated the distance that they had walked, it was more than 270,000 kilometers.

Schools that wish to be involved in such a program should start out small. During the first year, reasonable goals should be set. In the second year, review the program and make changes, seeking to increase participation. During the third year they can be more ambitious and try to get policy changes written into school board

plans. Schools also don’t need to worry about creating their program. There are plenty of resources available online. The United States’ equivalent of the Active Safe Routes to School program can be found at [www.saferoutesinfo.org](http://www.saferoutesinfo.org).



Liability is a big issue in any walking program. Safety should be the number one issue, and children should never walk alone. Parents should always accompany children when

walking to school. When they reach grade six you can arrange a walking buddy that they can walk to school with regularly. For walking school buses you should plan on having one adult for every four children. If parents are not comfortable with their child participating in the walking program, they should not be forced to participate. Once parents feel safe with the other parents, then walking school buses can be quite effective, and can make some long-term changes in the community.

ASRTS was one of the first programs of its kind and has had the opportunity to learn through trial and error for other communities that are looking to implement a similar program. Seed funds have helped to motivate partners to do more. These seed funds are distributed on an as-needed basis, but have shown to really motivate “in charge” individuals to create change in their communities. ASRTS has created ready to use resources such as brochures, maps, tools and CD-ROMs to assist in making this program possible in other areas.

The next step in the Green Communities program is to get more funding to expand projects, get more awareness and participation from community members, and become more connected with city planners to create walkable communities that will help their cause.



# Public Participation

# A Citizen's Guide to Getting the Most Out of New Development

**David Goldberg**, Communications Director, Smart Growth America, Decatur, Georgia

**Lisa Nisenson**, U.S. Neighborhood Protection Agency, Washington, D.C.

**Marilee Utter**, Citiventure, Denver, Colorado

## Choosing our Community's Future

Smart Growth America has produced a reference book for use by the public to better address issues in their own communities. The intent of this book is to better educate the public in effective ways to interact with developers and planners and to reduce the public's fear of the development process. Most citizens are at a disadvantage when it comes to talking to planners and developers, simply because they don't understand the vocabulary of the process. Everyone wants to see positive changes in their communities, and the surest way to create cities we are all proud of is to include the involvement of an informed public. This book helps to give information to the public that will help them become part of the planning process.

Every year in every city in the country, there are major "not in my backyard" (NIMBY) fights. This book focuses on planning issues that are going to be faced by people in an existing community and are also the issues that most frequently develop into NIMBY conflict. These issues are big-box development, infill redevelopment, mixed-use development, mixing of housing types, greenfield development, and community planning.

Smart Growth America did research to find out what people want most from the public participation process. First of all, citizens want to feel like they are

participating in the beginning of a planning process, not at the end when most of the major decisions have already been made. Citizens also want places that are safe and attractive, and that have good access to daily necessities. They also want to fix places that are now being lived in, preserving the best places as opposed to spending more money to develop new neighborhoods. Ultimately, the average citizen wants fairness and democracy in the planning process, with low personal cost and effective use of public funds.

The book that was produced, titled "Choosing our Community's Future" educates the public in the basics of the planning process. It covers the steps in the planning and zoning process, as well as the accompanying

zoning and development regulations. Key players and their roles are discussed, as well as questions that the public should get answered from these key players before the project progresses. The book covers several aspects of this process to give the reader a sense of what must be a concern of the public and what shouldn't be a serious worry.

**Everyone wants to see positive changes in their communities, and the surest way to create cities we are all proud of is to include the involvement of an informed public.**



Another chapter of the book helps in evaluating the potential impacts of the development. Instructions for evaluating densities are included, as well as help in assessing traffic impacts of the project. Of particular interest to many communities are the impacts of big-box centers, which are covered extensively in this chapter. Housing issues are addressed, as well as security, safety, and property value impacts.

Environmental impacts are not easily understood in the development of new projects. Another chapter covers applicable environmental laws, such as air quality, water quality, and open space issues. It instructs citizens how to successfully use environmental regulations for their benefit without abusing the law.

Case studies from around the country that readers can apply to their own situations are reviewed in the book.

## A Citizen's Guide to Getting the Most Out of New Development

Lessons on effective public engagement that will bring benefit to the community are given, as well as instructions on how public design charettes are conducted. Many citizens face very similar circumstances across the country, and the public can use each other as reference for resolving their own community's issues.



The final chapter of the book offers lessons from citizens who were successfully engaged in the planning process. These “local heroes” can show how to reduce opposition and fear of change in local communities.

### Clarendon Station

In the 1970's Arlington, Virginia decided to put the newly planned Metro line through existing neighborhoods, as opposed to directly adjacent to the highway right-of-way. Although it has taken several years, this decision is really paying off today. Along with this decision was the decision to drastically increase the densities in the station areas while putting growth boundaries around them to preserve the lower densities of the surrounding neighborhoods. It was thought at the time that the public would be more likely to accept this decision if they didn't feel that their homes would be threatened by the new Metro project.

Clarendon Station has been the last station in Arlington to reach “build out.” The community around Clarendon Station had some serious concerns about the new development, and had to figure out the planning process on their own to get these issues addressed.

An important part of this was figuring out who was going to make the important decisions. This is different for every city in the country. In Arlington's case, since the county controlled the area, decisions were not made by a mayor, but by several board members. It is not always clear what individual board members

views are about new development, so it is important to do some outside research on the board member and seek to understand the background that they are coming from.

Also, it is important to know when the planned public input period will be. Knowing how to use this period as a public group is essential. Sticking to the established planning process will help to know what is required and show the decision makers that you know what you are doing.

Hiring a lawyer is something that some public groups do as a first step, without allowing the established process to run its course. In Clarendon's case, the public had to hire a lawyer when they saw that none of the decision makers would listen to them. They introduced him at their first meeting, but had him sit in the back in order to not make the meeting adversarial. Lawyers can be beneficial when needed, but it is important to keep in mind what kind of message that sends to those making the decisions.

The Clarendon Station area has matured over the years, with 20 million square feet of retail and office space added since the line was built. Traffic counts are lower in the neighborhood, but the densities are much higher. The first buildings to be built were affordable housing and government offices, elements that will be willing to go in when the future of the development is uncertain. Today the development is in its fourth phase, with ultra-high value housing and retail being built.

The public can and should be involved in the planning of new developments in their communities. When the public involves itself effectively, the outcomes are more viable and more supported by the community as a whole. It is hoped that the guide “Choosing Our Community's Future” will aid citizens in becoming key players in the planning of their neighborhoods.

## Access by Design

**Steve Dotterer**, City of Portland Bureau of Planning, Portland, Oregon

**Robert Hickey**, Urban Ecology, Oakland, California

**Matt Haynes**, Fehr & Peers Associates, San Francisco, California

**Robert Hodder**, AARP Public Policy Institute, Washington, D.C.

Planners and engineers must design communities that are accessible and sustainable from early in the design process. When accessibility is considered early on, not only will the community function more completely, but the process will be much simpler than if accessibility is merely an afterthought.

### Sacramento Pedestrian Master Plan

**Matt Haynes**, Fehr & Peers Associates, San Francisco, California  
m.haynes@fehrandpeers.com

California's capital has a population of 450,000 and is rapidly growing. Due to the steady flow of people making their way to Sacramento, a plan has been implemented to create a walkable capital city through policies, improvements, and integration of systems.

Policies for Sacramento are designed to create a walkable pedestrian environment through connectivity, travel way character, and context character. Connectivity deals with the way housing and other developments are developed and how well they connect with their surroundings. New neighborhoods should be designed around a centralized location allowing people choice in how they commute. The focus for existing neighborhoods should be on improving existing facilities and addressing accessibility issues. If a neighborhood cannot connect cul de sacs for auto access, at least it can make them more easily connected for pedestrians.

Travel way character deals with designing pedestrian travel ways that are clear, accessible, and separated

from roadways by shrubbery, tree lines, or other buffers. Sidewalks should be at least four feet wide, and in some places much wider, with additional space needed for street furniture and other amenities.

In dealing with context character, mixed use development is a great way to generate walkable communities. Through zoning, the density of an area can be increased, and by

providing incentives to those willing to redevelop in existing areas, development can be forced into a centralized area. Policies that increase accessibility can increase levels of walking and decrease driving.

Improvements must be prioritized and focused on infrastructure that affects walkability including street and sidewalk widths, street lighting, and connectivity. Demand for improvements is determined by land use and development types, presence of public places, and availability of transit facilities. Top priority projects are in areas with land uses that support pedestrian connections but that lack facilities.

Walkability depends on the condition of the existing infrastructure. In creating the Sacramento Pedestrian Master Plan, neighborhoods with deficient pedestrian infrastructure were mapped in GIS to create a "deficiency index." It was found that most neighborhoods lacking infrastructure were located on the perimeter of the city.



**High walkability means ease, comfort, and safety for pedestrians.** Photo courtesy of Ed Cox.



**Low walkability means deficient pedestrian infrastructure.** Photo courtesy of Ed Cox.

**The focus for existing neighborhoods should be on improving existing facilities and addressing accessibility issues.**



## Access by Design

Pedestrian demand in these areas is influenced by development type, including the mix of use and the intensity of use. Demand is also influenced by the presence of public space and parks, as well as the availability of transit facilities.

Sacramento's master plan was developed out of a public involvement process. Planners reviewed existing policies and tried to integrate the new pedestrian master plan with them. Through a series of public workshops and stakeholder group participation, specific project areas were identified. Design guidelines were created that would show how to make street corners and sidewalks more accessible, as well as how to plan an effective buffer zone and crossing facilities.

Planners in this process learned it was important to involve the public early in the planning of neighborhood areas. They also learned that GIS applications can be a powerful and effective tool to understand the area that they wanted to study. It helped them to prioritize the improvements they wanted to build.

### AARP

**Robert Hodder**, AARP Public Policy Institute,  
Washington, D.C.  
rhodder@aarp.org

The AARP is a nonprofit organization that helps people over the age of 50 have independence, choice, and control in ways that are beneficial and affordable to them and to society as a whole. AARP has a ten-year strategic plan to pursue a social impact agenda, which includes social security reform, health care reform, and support for development of more livable communities.

The AARP defines a livable community as a place that has affordable and appropriate housing, supportive community services, and adequate mobility options, which together facilitate personal independence and engagement of residents in civic and social life.

Age demographics show that the population of persons over the age of 50 is projected to double by 2050 and the population of persons over 65 is projected to double by 2030. The built environment is auto centered,

has a lack of alternative modes of transportation and services, and is based on segregated land expansion. The built environment does not suit the twenty percent of people over 65 who do not drive. The baby boom generation is reaching this age, and society has an interest in accommodating them.

Mobility and community engagement statistics show that persons over 75 years of age most often travel as passengers in a vehicle. This shows that the elderly are not the only ones affected by the built environment, but family members or friends who have to spend time to take them around are also affected. When family members or friends are not able to chauffeur, the elderly miss out on things they want to do. AARP is seeking to expand housing affordability types and designs, strengthen safety and security, improve travel opportunities, and enhance mobility options in order to benefit these people as well as their families.

Transit-oriented development focuses on the "Four D's": density, diversity, design, and distance. Diversity and density provide "eyes on the street," which increases safety and reduces crime. Some design and distance principles include building around transit, mixing uses, creating a community identity, making the development pedestrian friendly, and enhancing recreational availability. The key point is to allow a person to "age in a place." The design of a community will determine whether an elderly person can live independently.



**TOD principles make livable communities for people of all ages, including seniors.**

Photo courtesy of Robert Hodder.

## Access by Design

An aging population is a global phenomenon. As our populations lose the ability to move independently, we must provide communities that are better planned to accommodate older residents. With a little forethought and solid design practices, we can create more livable communities for everyone, not just the elderly. In this way, we can not only live longer than ever before, but also better.

### Engaging Low-Income Communities

**Robert Hickey**, Urban Ecology, Oakland, California  
robert@urbanecology.org

A disproportionate number of people who live in low income areas, often people of color, are hurt due to transportation issues. Because low income residents are more often pedestrians, they are more likely than higher income people to be hit by a car and killed or hospitalized.

Cars are expensive, so in lower income areas there is more transit use. In some metropolitan areas it is more than 30% higher in low income areas than in the region as a whole. There are often higher numbers of families and children in low-income areas. This also has implications for transportation safety. A recent report in California found that being inside a car, as an occupant, is the number one leading cause of death for children under the age of seventeen.

Two-parent families now spend twice as much on children's transportation than they do on children's health care. If you go to a low income community you will not get a lot of support around the idea of "walkability" the way you might in upper middle class neighborhoods. But you will get nodding heads when you talk about how lack of walkability affects these communities. The challenge is being able to talk about these issues in ways that mean something to each community.

A case study will illustrate concepts that can be implemented in order to better involve low income community members. The 16th Street Bay Area Rapid Transit (BART) station is located in San Francisco's Mission

neighborhood. The area has a mix of incomes, but is predominantly low income. Around the station there have been serious problems with drug dealing and prostitution. Although the area was generating more riders than many other stations on the BART system, the station itself was not being used, due to its reputation for illegal activities.

Community concerns had generated piecemeal solutions. Planters were filled with concrete to prevent the hiding of drugs in the soil. Fencing and barriers had made the area not only unattractive, but more unsafe than before. Commuters didn't use the station after 5 pm as the station was well known to be a dangerous place to be in the evening.

The Urban Ecology group was invited to facilitate a community involvement process in order to come up with design solutions that would make the station more user-friendly and less of a hub for crime. Urban Ecology teamed up with a community partner, Mission Housing, which helped to organize tenants as participants in planning meetings. Mission Housing's existing relationship with the community helped to involve more people than would have been possible without them.

The first meetings held in the neighborhood were to see what the residents perceived as the problems with the 16th Street station area. Focus groups were convened at the youth center and at senior centers in order to better understand the community.

Two workshops were held to walk residents through the design process, helping them to develop solutions to the problems identified. During the first workshop time was invested in finding common ground among the participants, and a mission statement was crafted, which was referred back to often in the workshop. Separated into smaller groups, residents brainstormed design solutions using three dimensional models.



## Access by Design

In the second workshop, alternatives were critiqued in order to select elements that were most desirable. During the session safety was more thoroughly addressed. At the conclusion, preferred alternatives were selected.



**Planners involved community members in developing design solutions to crime problems around the 16th Street station.** Photo courtesy of Robert Hickey.

Solutions to the station's problems were developed using the preferred alternatives selected in the workshop process. The plaza was activated, enabling a diversity of uses and users at different times of day. Fences and barriers that blocked sight lines were eliminated. A more welcoming design was created, with amenities like benches, steps for sitting, and adequate lighting. Space was included for nighttime performances, vendors, and passive uses in order to make the station seem more like a plaza than just a transit station.

In the end, Urban Ecology identified three keys to successful community engagement with low income residents. First of all, relationships were created by partnering with community groups. In this way, they were able to bring in people who otherwise would not

have felt comfortable. It was these relationships with community members that motivated people to attend meetings. Secondly, credibility was important, mostly coming from the good reputation of the community partners. Their relationships helped the community take the process seriously. Lastly, it is important to meet people where they are at, with their language, with their location, and with their identity. They made sure to meet in the community, to provide child care and translation services for those who needed it, and made sure that everyone had an opportunity to express their opinion.

Urban Ecology used four principle methods to help the community become involved in the visioning and design process. They took field trips outside the community to get residents to start thinking outside their daily experience. They showed them communities where design served similar needs, which was much more effective than trying to explain the principle.

Secondly, they were certain to simplify the process. By avoiding "planner-ese" and avoiding jargon that the residents would not understand, they were able to simply and effectively communicate with participants.

Third, they used photo simulations and three dimensional modeling to illustrate alternatives. Instead of asking them to try to understand a plan or section of the project, they used simulations and models that were more easily understood by a wider audience.

Last of all, they took opportunity to have participants train one another in the key issues. When residents were asked to explain the vision and design solutions to each other they became more fluent in the community planning process. This not only helped the 16th Street station project to progress, but will be a benefit to the community in future projects.

## It Takes Two to Tango

**Alice Rogan**, OCTA, Orange, California

**Stephanie Vance**, Center for Transportation Excellence, Washington, D.C.

**Mike Turner**, Regional Transportation District, Denver, Colorado

**Howard Steere**, Valley Metro Rail, Phoenix, Arizona

Building a successful transit project requires community support. By involving the public early in the planning process, planners can help build consensus in the community as well as identify issues that may not have been originally considered. Public involvement can also provide valuable direction for a successful transit-oriented development (TOD). Cities across the nation are gaining valuable experience with outreach tools that can expedite the public involvement process and reduce community conflict over new projects.

### Ballot Box Tango

**Stephanie Vance**, Center for Transportation Excellence, Washington, D.C.

Vance@advocacyguru.com

In some ways, a public initiative or referendum is one of the most dramatic forms of public participation. They can be compared to a community “bake sale” with proceeds going to transit projects. A successful “bake sale” can push a transit project right through to construction, whereas a divisive process will add months and years to development projects.

The need for local transit financing is increasing across the country. There were a record number of local transit initiatives passed in the 2004 election. They are passing in urban, rural, and suburban jurisdictions, regardless of political leanings. In 2005 and 2006 there are more than thirty communities with transit initiatives on the ballot. It is becoming a higher priority in communities across the nation to have complete and efficient transit systems. One way that the public can express this is through the passing of a transit initiative to fund new projects.

Getting an initiative passed can be a grueling process if the public is not behind the bill. With that said, here are the top ten ideas for gaining community support for transit initiatives:

10. It must be all about people, not things. Focus your efforts on how the new project will help people. Don't focus too much time on the “thing” that is going to be built, but how it will affect the people in the region.

9. Show the public what's in it for them. Be as specific as possible, and show the public clearly how they will personally benefit from the new project.

**It is becoming a higher priority in communities across the nation to have complete and efficient transit systems.**

8. Reach out early and often to the most affected communities. Don't avoid controversy, but try to neutralize it. Seek out the groups that you think will oppose the initiative and try to get their support very early in the process.

7. Under promise and over deliver. People want accurate ideas on what the project is going to cost and what they'll get out of it. It is more effective to tell people they are getting less and actually give it to them than to promise them more and never deliver. It's wonderful if you can do more than you promised, but if you promise too much and people are disappointed, they will remember that the next time you ask for their support.

6. Build coalitions that can deliver your message to different groups. Different people listen to different sources to develop their opinions. For example, some people listen to their religious leaders before forming an opinion, and others listen more to environmental groups or political leaders. It is important to have your cause supported from various groups within the community.



## It Takes Two to Tango

5. Understand your population. The population in a given area will contain various levels of support ranging from “die hard supporters” to “die hard critics.” It is important to target the middle of the spectrum and get their support. It is usually a waste of energy and resources trying to convince the people who will oppose regardless of the project details. Spend your time and money on those who are undecided or “gettable” opponents.

4. Don’t let the critics get you down. Remember that you’re paying more attention to them than most of the public. Sometimes responding to critics can actually make their issues more heard than simply taking no action at all.

3. Your word is your bond. Everyone dealing with the campaign must worry about accountability, from the agency as a whole, to interest groups, to individual spokespeople. A well-earned reputation will be priceless in future community projects.

2. Take off the blinders. Remember that the project is a very small part of the actual daily lives of the average citizen. It is only when you are thoroughly sick of sending the same message over and over that you’ll start to see results.

1. Everyone knows that transit rocks, so use it to your advantage! When it comes to transit it doesn’t matter what your political alignment, age, religion, or income level, people are showing more and more that they are willing to pay to get out of traffic jams, and make commuting easier. Use this broad group to develop a broad base of devoted transit supporters.

A successful transit initiative not only funds a new project, but can increase public awareness of transportation issues. Use the time that you are working on the initiative to educate

the public and make transit part of the community’s ongoing discourse.

### Overcoming Governmental Distrust

**Mike Turner**, Regional Transportation District,  
Denver, Colorado  
mike.turner@rtd-denver.com

Denver’s I-70 East Corridor project includes highway improvements as well as a new rapid transit line from Denver to the Denver International Airport. Many governmental agencies are involved, including the Regional Transit District, the Federal Transit Administration, Denver Regional Council of Governments, the Army Corps of Engineers, and the Federal Emergency Management Agency. The project is especially challenging because the communities involved are primarily low-income, minority communities with a history of governmental distrust stemming from the way previous projects have been handled.

The I-70 project is being used as a case study to analyze the effectiveness of community impact assessments, dealing especially with issues of environmental justice. The original construction of I-70 split many of the communities along the corridor in two, and there were many condemnation issues the developed from the original project. The challenge of the new East Corridor project was to overcome the deeply rooted community distrust.



**Denver’s I-70 project held block meetings to address community concerns.** Photo courtesy of Mike Turner.

Several principles were found to be keys to overcoming distrust. You must build on existing relationships, include everyone, contact the public early and often, be committed, ask for opinions instead of telling them what you think the issues are, and provide low-tech solutions. The last of these presented a challenge. Since the communities were primarily low income, most people didn’t own computers so a

## It Takes Two to Tango

web site wasn't enough to keep people informed. They found that flyers and mailings were the preferred method of communication.

The project organization worked to "brand" the project early in the process. Advertisements were located inside the community to develop familiarity with the project. They also had representatives wear yellow shirts with the project logo anytime they were in the community. This developed familiarity in the community that if someone was handing out flyers or doing surveys in a yellow shirt they knew that they were working on behalf of the I-70 project.

Individuals from the community were given jobs as "outreach individuals," receiving pay to promote community involvement in the project. The outreach individuals were given training on going from house to house to talk with community members. The training included common methods in going "door to door," ethnic courtesies, as well as information on the histories of the neighborhoods. They were also trained in losing the "technospeak" in order to make the project issues understandable to all.

Whenever possible, bilingual teams were paired to go door to door with a questionnaire. They discovered major community concerns and educated them on the project's goals. They also invited community members to upcoming project meetings.

The first series of meetings were block meetings. These were more intimate meetings hosted by a neighbor in a backyard or park, of no more than 15 people. Issues that the block was concerned with were discussed, and meals and translation were provided.

Next were neighborhood meetings, with up to 120 in attendance. Flyers were distributed to make the community aware of the meetings. Food, translation, and

child care were all provided. During these meetings larger neighborhood issues were discussed.

The final series of meetings were corridor-wide meetings. These were the largest meetings, with up to 250 participants. Newsletters, flyers, and advertisements were all used to publicize the meetings. These meetings were intended to bring together all perspectives in an open and dynamic meeting.



**Community members were hired by Denver's I-70 project to work as community outreach representatives.** Photo courtesy of Mike Turner.

Project organizers learned that client support was an absolute must. Wider support significantly reduced the level of acrimony during the planning process. They also worked to eliminate agency bias and reduce team hierarchy. They found it was essential that they engage people in the project, treating them with respect as they developed open communication channels. The methods that they developed during the I-70 project have set a precedent that will be used for other studies in order to improve the

state of government trust throughout the country.

### Phoenix's Valley Metro Rail

Howard Steere, Valley Metro Rail, Phoenix, Arizona  
hsteere@valleymetro.org

The Phoenix, Arizona region is the fastest growing region in the United States with more than 100,000 new residents each year. The population is expected to double in the next thirty years, and that growth has and will continue to put added pressure on the transportation system. As new people move to the outskirts of the valley, vehicle miles traveled increases much faster than population, and the number of new vehicles on the road will also increase faster than the population. Part of the solution to this problem is a light rail line, called Valley Metro Rail (VMR). Light rail is being developed as a regional solution to address growing transportation challenges.

## It Takes Two to Tango

Transportation infrastructure has not kept pace with the growing Phoenix population. Within the next twenty years travel speeds on the freeways and arterial roads will be reduced to less than half of current speeds. Although Phoenix is the 16th largest region in the United States, its transit system ranks 34th in size.



**Phoenix's Valley Metro Rail system is the result of years of work to improve the transit system in the region.** Photo courtesy of Howard Steere.

Over the past decade there have been a number of initiatives to try to address Phoenix's transportation problems. In 1989 was the ValTrans proposal. This was a regional election, proposing major improvements to transit, including 40-50 miles of elevated light rail. This was definitely too much too soon, and was soundly defeated.

In 1996, Tempe was the first to lead the way by successfully passing a transit referendum. In 1998, Mesa passed a Quality of Life tax, which was not a dedicated transit tax, but also pays for the arts, an aquatic center, and other amenities. In March 2005, Phoenix passed Transit 2000. These elections provided the revenue needed to pay for the Valley Metro Rail project and other transit improvements.

The initial 20-mile VMR line stretches through the heart of Phoenix and Tempe, and ends about a mile into Mesa. The route follows the valley's highest traveled corridor through the urban core. This corridor needs increased transportation capacity, but it's expensive or impossible to do road widening. There are 18 stations

in Phoenix to serve the many destinations and employment centers along the route. There are 9 stations in Tempe and Mesa.

VMR has launched a massive community outreach campaign that includes various personal meetings with community members, businesses, and stakeholders, as well as community events, telephone hotlines, e-mails, and online surveys. There are four major elements to VMR's outreach plan. They are communication, operations, marketing assistance, and staffing.

Communication is essential to any community involvement project. VMR established a 24/7 project hotline where concerns could be voiced and information about the project could be discussed. The public was made aware of street closures through email, website information, as well as by hand-delivered flyer. Periodic construction update meetings were held, and a community advisory board (CAB) was established for each section of the project. CABs are designed to provide input on contractor community relations and serve as a voice for the community. CABs can also give bonuses to contractors for minimizing community impacts and doing a good job. They serve as the voice of the community during construction, and attend monthly construction review meetings.

Operations is the second element of the outreach plan. Signage and traffic circulation was a major consideration from the beginning. Access was maintained to all buildings along the construction line at all times in



order to not impair businesses. With 3,500 businesses along the 20-mile route, VMR aimed to assist them in whatever way possible during the construction phase of the project.

## It Takes Two to Tango

Marketing assistance was also a consideration during the project. Business promotions were made to encourage people to continue to patronize businesses in the construction zone, even if it was temporarily less convenient. A light rail discount card was produced with a directory of businesses along the route. Contractors and staff employed by VMR were also encouraged to patronize businesses along the corridor. Business owners from other cities who had experienced light rail construction were also brought in to discuss issues facing those along the VMR alignment.

Staffing is the fourth element in the Outreach Plan. In order to facilitate public involvement in the process, five “community outreach coordinators” were hired, each of which is assigned to a specific section of line. Their job is to handle community concerns that arise around their designated track section. Two business outreach specialists were hired, as well as four public

involvement specialists to administer the community advisory board program.

Several issues have come up during the outreach process. There is a poor public understanding of the agency’s role in the project, as well as the city’s responsibilities. Communication between VMR and the partnering cities has been challenging as well. Overcoming the “us vs. them” mentality has also been difficult. Partnering sessions with each of the participating cities were established in order to develop a more cooperative relationship.

Building a light rail system is a long and complex process. The Valley Metro Rail project has been a long time in coming, but is something that is sorely needed in the Phoenix region. The project is currently on schedule and should be operational in 2008.



**Valley Metro Rail launched a media campaign across the Phoenix region to increase awareness of the new transit project..** Photo courtesy of Howard Steere.



# Colorado's Fastrack's Story: Connecting TOD to Community

**Katherine Perez**, Transportation and Land Use  
Collaborative of Southern California, Azusa, California

**Bill Sirois**, Regional Transportation District,  
Denver, Colorado

**Rosemary Rodriguez**, Denver City Council,  
Denver, Colorado

**Micki Kaplan**, City of Boulder, Colorado

## Fastracks

**Bill Sirois**, Regional Transportation District, Denver, Colorado  
bill.sirois@rtd-denver.com

In November of 2004, citizens in the Denver area initiated by referendum the construction of one of the most exciting transit systems a metropolitan region has ever seen in this country. The FasTracks development incorporates light-rail, commuter rail, and bus rapid transit into a comprehensive program that will service several corridors throughout the Denver metropolitan region. These corridors will be built concurrently, with anticipated completion by 2016.

The development of a transit system on such a large scale provides some unique opportunities for planners, developers, and citizens. The transit lines may spur new growth in the areas through which they pass. Though this has the potential for adding to the fabric of the communities around the corridors, many stories can be told of previous transit projects that have torn apart neighborhoods and divided communities, deeply scarring the urban social fabric. Many in the Denver region hope that a focus on transit-oriented development (TOD) around the new transportation system will not only prevent dividing communities but will build stronger, more sustainable communities.

TOD is a new breed of mixed-use development intended to increase vitality by providing more activities in one area around a transit stop. In many cases, TOD includes a mix of medium- and high-density housing

units, retail, office space, and parks within walking distance of a station.

In the Denver region, TOD coordination cannot be just one person or one municipality's job. On such a large project, there are many municipalities, citizens, and professionals involved in making TOD happen.

Denver's Regional Transportation District (RTD) has been focused on educating voters and municipalities on the benefits of transit. Their focus is now changing to construction and development around new transit lines. This changes the relationship between RTD and municipalities. During the ballot process RTD had to present the plan it had for the citizen's approval and now RTD and involved municipalities have to go back to square one in planning for TOD. Usually RTD defers the TOD process to local governments because they have land use powers, but RTD is a concerned land owner as well and thus has a role in TOD.

The main concern RTD is dealing with now is how to bring about successful TOD partnering with local municipalities. RTD is particularly interested in devel-

oping a tracking system to show how FasTracks influences TOD in the Denver region.

The public is somewhat interested in TOD but has

also been skeptical, so TOD growth is not yet an effective marketing angle for selling the new transit lines. There is still sizeable interest that is generating many TOD proposals from developers and concerned citizens. This enthusiasm was the reason for undertaking a project to include TOD, despite the risks involved in this type of development.

## West Corridor

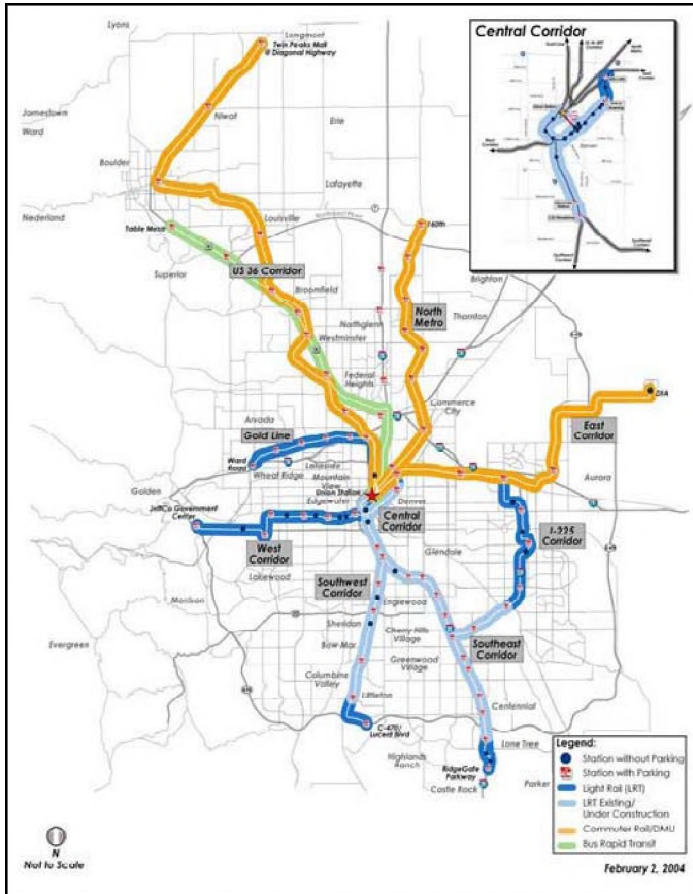
**Rosemary Rodriguez**, Denver City Council, Denver, Colorado  
rosemary.rodriguez@ci.denver.co.us

The West Corridor of the new system includes four transit stops, two of which are designed to be "walk-up" stops that are more community-friendly. The communities affected are mostly Latino, and residents are often from lower-income households. Almost 40% of those living in the area already use transit regularly.

**The FasTracks project incorporates light-rail, commuter rail, and bus rapid transit into a comprehensive program that will service several corridors throughout the Denver metropolitan area.**

## Colorado's Fastrack's Story: Connecting TOD to Community

In neighborhoods such as this, TOD should be community-serving, rather than commuter-serving. As such, it is essential to include a significant amount of green space in the TOD design as the neighborhood is presently lacking in open space and public parks. The stations on the West Corridor will almost certainly be used heavily, and for that reason, they deserve to be focal points for the community rather than part of a



**Denver's Fastracks system.** Photo courtesy of Bill Sirois.

dividing rail line. TOD around the stations must integrate into the community without displacing the community.

Sheridan Station is located on the West Corridor in a community where a large portion of the housing is considered blighted and the area density is low. Though the city isn't buying land in this area, those who have bought land are leasing it to developers for a dollar a year to stimulate growth in the community. It seems

that much can be done to influence development by accommodating the development community in this and other ways. Also, there is a real opportunity to work with the housing authority for the two stations located in these neighborhoods. For these areas, TOD may well be the beginning of re-growth in these neighborhoods.

### Boulder

**Micki Kaplan**, City of Boulder, Colorado  
kaplanm@ci.boulder.co.us

With 50,000 commuters and 100,000 residents, Boulder is experiencing an imbalance of external workers to residents. Boulder has also been losing tax revenue for the past five years as businesses have left to relocate outside the city. Boulder's industries are generally high-tech, but its population also includes 30,000 students. Affordable housing in Boulder is in short supply. Given these pressures, Boulder is looking to transform the 11 acre area around the new transit station into a transit village compatible with these needs, including housing, retail, and open space.

Boulder has purchased the land and has funding for building the first phase on three acres. The next phase includes affordable housing on the remainder of the 11 acres. This housing is also intended for the elderly as more and more retired people arrive in Boulder. Land may be purchased through financing with block grants through the local housing authority. This is much more achievable when transit agencies and housing authorities work together.

The next few years will be challenging as the Fastracks project gets underway. The successes and failures of the project can serve other regions that are seeking to develop more wide-scale transit systems to inform their own decision making. RTD anticipates that as TOD is built along the new system, the support for TOD will increase, and the market will drive future development and spur additional smart growth in the Denver region.

# Creating Effective Marketing Campaigns

**Kim Duncan**, TriMet, Portland, Oregon

**Tim Healy**, Sound Transit, Seattle, Washington

**Alan Matheson**, Envision Utah, Salt Lake City, Utah

**Maria Garcia Berry**, CRL Associated, Denver, Colorado

## Envision Utah

**Alan Matheson**, Envision Utah, Salt Lake City, Utah

amatheson@cuf-envision.org

Envision Utah is a non-profit, non-partisan organization, created to bring the public together in partnerships. Envision Utah attempts to address growth challenges and aid in the implementation of a common vision.

The approach to communication is different for Envision Utah as a non-profit, due to some practical as well as political restraints. When first organized in 1997, the atmosphere regarding community planning was much different than it is today. Envision Utah was accused of having many ulterior motives, and the topic of public transit was not openly discussed. Today the climate has changed in Utah regarding growth, and Envision Utah's vision is discussed regularly in local political campaigns.

Envision Utah felt that the government was not effectively addressing growth issues, and it was decided that a grassroots approach was best to bring attention to serious problems in the region. Several workshops were held in order to develop tools to promote support of quality growth. Increased transit mobility and transit choices were determined to be critical elements in future growth plans.

Communicating Envision Utah's goals to the public has been challenging. As it has no authority to change public policy, Envision Utah must work through persuasion and public education. Wirthlin Worldwide, a research agency, was involved to evaluate the values of the people living in the region, in order to determine how to best communicate common ideals. With

**Envision Utah has found that it is essential that they speak to people's values and their community's history.**

an annual marketing budget of only \$150,000, Envision Utah's relationship with the media was been key to getting the message out. The media has responded positively throughout the process, and Envision Utah has gotten a lot of free publicity through media coverage. The Governor's Growth Summit was even aired by every media network during primetime, adding greatly to the visibility of the Envision Utah organization.

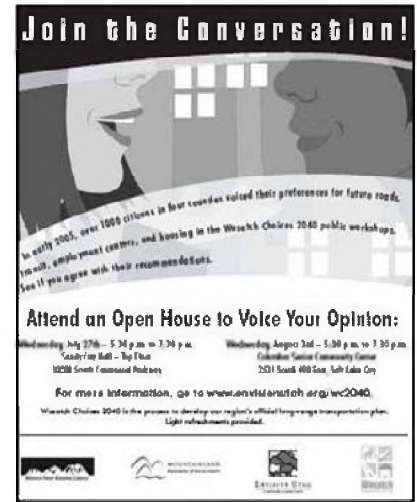
In 2000 Envision Utah became involved in a campaign to pass a referendum to increase sales tax in order to pay for transportation improvements. Although they were

not allowed to campaign directly for the passing of the referendum, they focused on educating the public on how their choices would affect the future of their region. When the referendum passed, Envision Utah was largely credited for the success of the effort.

In 2004 a new transportation campaign was begun to influence elected officials to support investment in transit choices. Envision Utah was given reduced media rates, which helped immensely. They produced several guest opinion pieces in support of transit options, as well as a 30-min documentary shown on television. The documentary focused on the future in order

to show the public how the priorities they made today would influence how they would live in the future. Several popular past public investments were identified, such as the Salt Lake International Airport and I-15, and viewers were encouraged to contact their elected officials to show support for investment in other public projects.

Wasatch Choices 2040 is a recent campaign that Envision Utah has worked on to develop long-range plans



**Envision Utah actively pursued public involvement in its planning process.**

Image courtesy of Alan Matheson.

## Creating Effective Marketing Campaigns

for the region. The main purpose of the campaign was not to change public policy as much as it was to increase the level of public involvement. They met with mayors and city administrators from over 60 municipalities in the state, and individualized letters were sent out by the mayor's offices to invite participation by the public in a series of workshops. Invitations were also sent out in water bills and local newsletters. In the end they had more than 1000 people to the public workshops. Most participants reported that they attended due to the personalized letter from their mayor.

Envision Utah has found that it is essential that they speak to people's values and their community's history. Everyone is interested in living in a quality community, but it takes some education in order to help the public understand how their choices today can affect the quality of their communities in the future.

### "Spending Too Much Time in Your Car?"

**Tim Healy**, Sound Transit, Seattle, Washington  
healyt@soundtransit.org

Seattle's SoundTransit system offers regional transportation services to four counties in the Seattle metropolitan area. Being a relatively new agency, they have a need to establish a recognizable brand and to build awareness of their services.

Using information from the Claritas Corporation, SoundTransit analyzed the market in the Seattle region in order to focus their efforts on a specific target audience. By analyzing specific demographic, lifestyle, and media use habits they were able to identify the "lifestyle clusters" that were most likely to respond to a new transit campaign. Five groups were identified that are regular transit users. These groups include the urban "up and comers," the "struggling metro mix," the "urban singles," the "metro singles," and those who have fallen on "difficult times."

The Claritas Corp. study also identified fifteen groups as a secondary

market. This market does not have to use public transit, but can be influenced by media to do so. SoundTransit chose to gear their marketing to the secondary market as the primary market was more likely to rely on transit without media influence.

SoundTransit's approach to marketing to this secondary market was to cut through the "clutter" of advertising by using humor. They wanted to avoid lecturing the public on why they should be using transit, but instead highlight the benefits of choosing to use transit. They focused on the comfort of public transit, congestion avoidance, time savings, low level of stress when using transit, and the lower cost as compared to driving. During the advertising campaign, they found that the cost of the commute was the least appealing to the public, but that time savings from not being in congestion was most important to this market.

An advertising agency was hired that was good at humor and would come up with creative advertising. The agency created ads that showed how trapped people felt while sitting in their cars during peak congestion. In the latest campaign they focused on the humorous results of people being stuck in their cars for long periods of time. The ads have been placed on billboards around the city, as well as in newspapers and direct mail. SoundTransit has also paid to sponsor traffic reports in order to target those most interested in saving commute time. Another type of advertising that has been successful has been "in your face" advertising on gas pumps.



**SoundTransit's marketing campaign focused on the time consumed by traffic congestion.** Photo courtesy of Tim Healy.

## Creating Effective Marketing Campaigns

SoundTransit has also found success in sponsoring sporting events. They have found that if they encourage people to take a “one-time” trip to a baseball or basketball game in the downtown area, they are more likely to try it out on a weekday for their commute.

The results of SoundTransit’s recent campaigns have been increasingly positive. Ridership on the transit system in the region has consistently increased, and awareness and approval of the public transportation has increased throughout the region.

### Denver’s Fastracks

**Maria Garcia Berry**, CRL Associated, Denver, Colorado  
glondon@crlassociates.com

The Regional Transportation District (RTD) serves a seven county area in the Denver region. When it was created in 1970 by the legislature, RTD was given tax authority. They have tried since 1973 to raise the sales tax in order to fund public transportation, but their first victory came in 2004.

The Denver area is politically divided, with equal parts Democrat, Republican, and Independent. In order to pass any referendum, it is essential that you create a coalition with at least two of these voting blocks. RTD proposed their new “Fastracks” system, which was a bold new addition of 119 miles of transit to their existing system, with a cost of more than \$4.6 billion, the largest transit only initiative Colorado had ever seen. They certainly needed to understand the voters in order to pass the proposal.

A “transit alliance” was created of elected officials and members of the private sector with the goal of educating the public on the effects of public transit. A poll was done in June of 2002 to gauge the appetite in the region for more transit. By 2003 they developed a targeted profile of the group that would be most opposed to the idea of new transit investment. The profile they created was of a male between the age of 40 and 65. He was more likely to vote Republican, was a suburbanite, and did not currently have access to transit.

RTD held 27 focus groups in 18 months, and tried to pinpoint the general opinion of the public on transit. The most fervent supporters had more education and more disposable income. These people were most interested in the increase in property value that would be felt from adding transit. The women in the focus groups largely felt that the proposed additions to the transit systems should have happened ten years previous, which was a similar opinion found in most of the conservative voters in the groups.

In the focus groups, those who had lived in Denver less than ten years, had a college degree, had disposable income, and had many transportation choices loved and supported the initiative to expand the transit system. Those who were native to Denver and had fewer choices in transportation strongly opposed the aggressive plan to expand transportation systems.

It soon came out that the governor of Colorado was going to strongly oppose the Fastracks initiative. He wanted to construct the system one quarter at a time instead of planning for the entire system at once. In polling and focus groups it was found that residents wanted the transit to come on-line sooner rather than later. A coalition was built with 31 mayors in the Denver region who came out in support of the proposal. During focus groups, residents expressed the feeling that the mayor of Denver, who was highly popular in the metro Denver area, had much more influence on their opinion than the governor of the state. When this mayor expressed support for Fastracks, many residents supported the initiative.



Another obstacle that the backers of the Fastracks initiative had to overcome was the fact that 2004 was a major election year. They needed their initiative to stand out on the ballot for residents to pay attention to it. Not only was Colorado a swing state in the presidential election, but they also had an open senate seat, both of which were hotly contested races. As a result, the radio stations tripled their advertising rates, which made radio spots unaffordable to the Fastracks promoters.

## Creating Effective Marketing Campaigns

They held a petition drive to get the issue on the ballot, and placed ads on newspaper websites in order to reach younger voters who were less likely to buy a newspaper, but who would read the news online. In March of 2004 a community outreach program was begun. They discovered that very few people understood what Fastracks was, and were initially opposed to it due to their lack of understanding. When the public understood the complete nature of the plan, they strongly supported it.

During the outreach program, the public expressed the feeling that rail felt upscale and highly attractive. The opposition to the proposal said that it was too big and

too fast. The majority, on the other hand, thought that the 12 years of the plan was too long.

In the end, the initiative won by more than 15% of the vote. Surprisingly, the least supportive communities were the transit dependent communities. Conserva-

tive Republican groups were quite supportive of the initiative. During the entire process RTD found that there are many myths about who will or will not vote for transit, but that

those myths can be shattered and a successful initiative can be passed with the right groups supporting the cause.



## Partnering with the Community

**Jose Martinez**, Orange County Transportation Authority, Orange, California

**Ted Nguyen**, Orange County Transportation Authority, Orange, California

**Tomika Hughey**, Washington Metropolitan Transit Authority, Washington, D.C.

**Bill Knowles**, Utah Transit Authority, Salt Lake City, Utah

### Surfing for Community Support in the O.C.

Ted Nguyen, Orange County Transportation Authority, Orange, California

tednguyen@octa.net

Orange County has been working for a long time to build a mass transit system. The proposed system is called CenterLine, and includes a 9-mile starter line, with 87 miles of total rail in the master plan. This network has never really taken off. Half of the funding was to come from Orange County's Measure M, a voter approved transportation package from 1990. The other main source was to be federal funds, but the project didn't receive the anticipated funds. In the end, the board of directors decided to put the project on hold, and it has since been converted into a bus rapid transit (BRT) project.

Planners attribute this conversion to BRT to lack of public support for the light rail plan. Several factors influenced this lack of support. First of all, all decisions need to remain local decisions. When citizens feel like someone else is forcing a decision on them, they resist. Second, the timing also needs to be right. Southern California had just completed a large scale renovation of its freeway system, so the people didn't see the need for mass transit. Additionally, within a project, the leader has a tremendous impact. A dynamic and visionary leader goes a long way in making a project work.

Because public works projects are so expensive, most of them need federal government funding in order to be built. The money they'd counted on for the Orange County light rail network to be built ended up being

allocated somewhere else, leaving the project high and dry. Any project needs support from the state's federal delegation in order to get what needs to be done in Washington D.C accomplished. The last factor is community outreach. This outreach should be as well engineered as the project design itself, if not more so. Without a well planned outreach, the best design in the world won't get built.



**Orange County's light rail system was changed to a bus rapid transit line, due to lack of sufficient funding.** Image courtesy of Ted Nguyen.

The planners of Orange County discovered that the media can be a powerful tool. As they sought for public participation, they broadcast details about a "Extreme Traffic Makeover" contest. By getting the public involved, it let them know that their opinion was valued. The contest helped people understand that the planning/transit commission truly did want to help them and fix the neediest projects. With what they learned from the contest, the planning commission was able to know what transportation problems were the worst.

**By getting the public involved, it let them know that their opinion was valued.**

After fixing the most frequently cited problem, the commission was able to focus on the other projects with the highest impact and lowest costs. Because of the outreach, people were more aware of the efforts of the planning committee and gave more support to it.

Planners in the county have learned the importance of community outreach, and have seen success in focusing on community involvement. Support for transportation renewal projects has increased, and planners continue to ask for public input on their future plans, in order to ensure that they have the community's best interests in mind.

## Partnering with the Community

### A Model in Community Outreach:

#### Planning for the Anacostia Streetcar Project

Tomika Hughey, Washington Metropolitan Transit Authority, Washington, D.C.

thughey@wmata.com

The Anacostia Streetcar Project was initiated in 2003 by the Washington Metropolitan Area Transit Authority on behalf of the District of Columbia. The project adds 35 miles of rail line in the Washington D.C. area.

A major segment will follow an existing right of way to connect two communities. Four stops were planned along the route, but after the public input segment of the project, two more stops were added. The new route helps tie many places together and improves access for everyone along the corridor.

When a project affects a community, it is important to know about the community and the issues that are important to the citizens there. Effort can be made either before or after a project is planned to get the support. Either way takes a lot of work, time, and expense, but it pays off. When the effort is made before a project is begun, the payoff is bigger. Many projects have been shelved because the citizens have been neglected.

One key to the outreach is identifying the real leaders. Elected officials are the leaders on paper, but usually there is a respected community figure that has greater influence. If you find the real leader, whoever they may be, the success in reaching the community is compounded. When it's done sensitively, the public audiences really are effective resources that go a long way to bringing in the community support.

Currently, the Anacostia project is resolving logistical problems. Having encountered difficulties in acquiring the desired right-of-way, they are currently analyzing the implications of an in-street alignment for the streetcar project. A community Streetcar Task Force is also being developed to provide ongoing advice to the project team.

### Salt Lake's TRAX University Line

Bill Knowles, Utah Transit Authority, Salt Lake City, Utah

During the construction of the University Line of the Utah Transit Authority's TRAX light rail system, effort was made to involve the business community in the project. Running along 400 South, the new line would eventually serve not only the University of Utah, but also many businesses located along the proposed right-of-way. UTA made great effort to get the support of the business owners before the project began construction.

Business leaders and engineers or contractors have different ways of looking at a project. Meetings were arranged just with the businessmen to draw up "rules" for the construction. After gathering lists of ideas to make the project more business friendly, contractors were approached to ask if they could meet business owner's requests. After meeting with both sides individually, the city council was approached and conditions for approval for the new line were submitted. It was hoped that this approach to the project would interrupt the flow of business the least, and would avoid the problems that businesses had during the construction of the Main Street line.

One of the unique things about the project was an incentive that was offered for the contractors if they met and exceeded expectations. Instead of working on the whole project at once it was completed in stages, in order to disturb individual businesses for the least amount of time. A 24 hour hotline was set up to resolve public and business owner's concerns. The businesses also requested 48-hour notice before utilities were shut off, in order to make appropriate accommodations.

One of the reasons this project was so successful is because of the outreach. The city told the business owners what they'd like to accomplish, then asked "How can we get your support?" As expectations were met and exceeded, people who once were vocal opponents became friends and allies. Sensitive projects, when handled properly, will create a groundswell of support for future projects. As the outreach continues during all phases of the project, the community will contribute to making the entire project succeed.



# Traction Power to the People

**Alan Wulkan**, Parsons Brinckerhoff, Phoenix, Arizona

**Cal Marsella**, Regional Transportation District, Denver, Colorado

**Wulf Grote**, Valley Metro Rail, Phoenix, Arizona

**Carol Galbrecht**, Capitol Metro, Austin, Texas

Recently there have been many issues regarding mass transit on the ballot throughout the United States. Some have resulted in failure, but fortunately many result in a positive response from the public. Communities can learn from other successful campaigns and the major issues that voters were interested in.

## Denver's RTD: Developing Transit Initiatives

**Cal Marsella**, Regional Transportation District,

Denver, Colorado

cal.marsella@rtd-denver.com

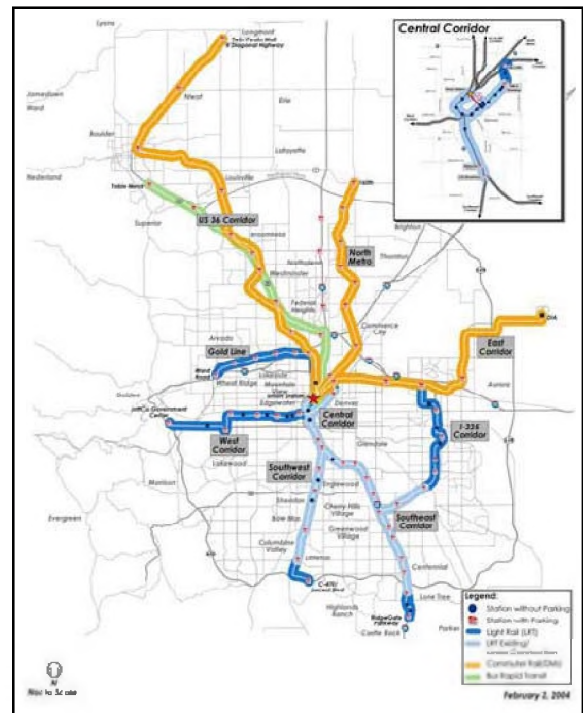
Mass transit in Denver, Colorado promised in a campaign for mass transit that 300 daily bus trips could be removed with the construction of just one rail line. This campaign, being as successful as it was, caused an increase of riders to the new system. Estimating 8,000 riders a day, the Metro Rail was unprepared for the 12,000 riders that were attracted to the system causing a clog of parking in the available lots provided by Metro, along with the neighboring business's parking lots. Although these results were exciting for the Regional Transportation District (RTD), it showed that additional planning needed to happen as the FasTracks plan was implemented.

Because the cost of infrastructure is a large obstacle, Denver Metro Rail worked with available funds to create an affordable plan for the city. The original rail station located in the center of the city was purchased and is being remodeled for modern use. Although the price of the building was expensive, it would save on financial and social costs in comparison to building a new structure. The comprehensive plan also included bus rapid transit (BRT). Although BRT is not as costly as a rail line, it is also not as fast or reliable. Another solution to dedicating expensive land to the single use of rail line is doubling up uses. A freeway with a rail line

included was built into the comprehensive plan in areas that need to satisfy both types of commuter needs.

Support is needed from all corners of a community to implement a large and costly plan. RTD used easy to read pamphlets to illustrate the master plan issued to the public in an effort to gain needed votes during their campaign to pass the initiative. To gather information on public interest, the RTD created MIS, or Major Investment Studies which gave them a clear understanding on what the needs of the public were. The environmental community gave its support to the plan because mass transit and transit-oriented development lifts some of the weight that development and automobiles place on the environment. As a result of the Metro Plan, the city saw infill occur in blighted business areas.

Through the Denver Metro Rail Plan, RTD learned several valuable lessons. It is essential that transit agencies only promise what they can deliver, and then deliver what was promised. The 'Us versus Them' scenario will fail as it polarizes the public on an issue that they should be educated on in order to make the best decision. Campaign teams, although costly, can aid in



**RTD's Fastracks plan will add needed transit infrastructure to the Denver area.**

Photo courtesy of Cal Marsella.

## Traction Power to the People

gaining the votes needed. When the public sees that they will get what they asked for, they are more likely to vote for your party again. Businesses are a major partner in our cities and their interests must be satisfied along with the community's.

### How Austin Said Yes to Commuter Rail

Carol Galbrecht, Capitol Metro, Austin, Texas

"All Systems Go" was the campaign slogan for the Austin, Texas commuter rail system. The plan for the city was to double the amount of buses on the road, build more commuter rail, and extend already existing lines to make Austin a more viable and livable city. In order to get this system off the ground, a one cent tax increase was all that was needed in order to collect needed funds. The campaign was then split into three phases.

Phase 1 was to do background research on the types of planning that the city needed. An ad campaign caught the public's interest with humorous commercials and songs featuring celebrities that the community would instantly recognize. Only the facts were used in the ads to promote the transit systems.

The second phase stirred up public interest and involvement in the project. The organization Envision Central Texas worked with the public in workshops to create a plan for transit and roads that best fit the community's needs. A charrette process was held that involved more than 8,000 citizens and elected officials. This design process produced input for a draft long-range transportation plan, drawing from more than 180 meetings. Finally, the third phase took all the back ground data on the city and the public's involvement and sorted it into a plan that would work for the city.

With a powerful campaign,

the plan won public approval 62% to 38%. The strongest support was from suburban Republicans and inner city Democrats. The use of humor and familiar faces and voices to educate the public on simple facts about the benefits of mass transit was a successful tool. Key to the success of the campaign was a good plan from the beginning, working with the community to make it their own. The campaign had to be cost effective and organized in order to confront the concerns of major critics.

The bus rapid transit (BRT) line will open in 2007. Stations are being designed and built, and traffic engineering is currently happening. Construction on the commuter rail line begins in 2006. Existing rail lines are being modified to allow for passenger service, which will begin in 2008. Future connections are already being considered and planned for. Community outreach is ongoing in order to make the construction process as painless as possible.

### Phoenix's Proposition 400

Wulf Grote, Valley Metro Rail, Phoenix, Arizona

wgrote@valleymetro.org

As growth has continued in Phoenix, Arizona, a regional rail system needed to be developed for the city. Proposition 400, a plan to build a mass transit system for Phoenix, fought its way into approval for more than two decades. At its original introduction in 1985, a half cent tax increase was proposed for improvement and

construction of highways and plans for the transit system. The proposition failed several times until 2000 when it was finally approved. The proposition formed the Transportation Policy Committee which organized 23 members in order to create a regional transit plan for the city that included the interest of business communities, citizens, and the regional and federal governments.

The plan funding was split



**Austin's transit authority involved the public in planning new transit projects.**

Photo courtesy of Carol Galbrecht.

## Traction Power to the People

two-thirds highway and one-third rail. Major opposing parties of the project launched a million dollar ad campaign against the project. Instead of rail, they wanted the money spent on a freeway system built in the direction of their own property. Two weeks before the public voted the opposition spent an additional one million more of their own money turning the polls in their favor. The Transportation Policy Committee, as a last minute effort to gain back support, spent another half million in television commercials, taking proposition 400 into the winning circle. The success of the project can be attributed to strong public support of light rail,



**The public was given more than 150 opportunities to express their opinion on Phoenix's proposed transit system.**

Image courtesy of Wulf Grote.

which was the primary target of the opposition ads. With the majority of elected officials supporting the light rail plan, the public support was enough to pass the initiative for a half-cent sales tax increase.

The plan worked effectively. Even though rail transit was only one third of the plan, it will help reduce delay of traffic by 50%. The involvement of the business community was also a key to the success of the campaign. They worked with

the legislature and also helped to inform the public about the real issues that the new proposal was seeking to address.

# **TOD Planning & Design**

# How to Plan and Design a High-Performance Transit Oriented Development

**GB Arrington**, Principal Practice Leader, PB PlaceMaking, Portland, Oregon  
arrington@pbworld.com

## The Art of Community Building

There is a rich mix of transit-oriented development (TOD) in the United States today, with the vast majority of it created around rail-based transportation. There are many tools that must be used in order to create a successful, new development in the flourishing TOD market. While implementing these tools will add to the expense and time involved in creating a high performance TOD, the benefits added to the community will be numerous and long-lasting.

The evolution of transit-oriented development in any city starts with advocacy and planning in the public sector. Some communities will become “early adapters” in creating TOD, and it will eventually move into the mainstream as more developers become experienced with the process of this type of community building and it becomes accepted practice for good development.

## TOD or TAD?

The majority of developments today in the United States around rail stations are not TODs. Most are merely transit-adjacent developments (TAD). It is not enough for development simply to be next to transit, but transit must be allowed to shape the development form at these stations. TOD is illegal in most cities today, not overtly, but because of the underlying theory and policy. Most communities only support and promote auto-oriented development.

In order to understand how TODs develop differently than TADs, it is important to see how the behavior of users of TODs is different. Residents of TODs are twice as likely not to own a car than the average US household. They are five times more likely to commute by transit than others in their region. They are usually people who used transit before moving to the TOD, but have “self selected” because the development is convenient for them in relation to work or school. Residents



also use the transit system more than they did before, simply because they live within a five minute walk of a station.

## Keys to Success

There are four major keys to the success of creating a high performance TOD. First of all, get the planning right. Planning for TOD must begin early, long before any construction begins. It should continue through the entire development process, and should continue long after the project is “finished” in order to continue to promote the central principles of TOD in the new community.

Second, apply the power of partnerships. TOD is institutionally messy, and involves many parties, which can become extremely complicated. Those most successful at TOD are those who are most successful at building partnerships. Each member of the partnership must give up something in order to get more back. Transit authorities are particularly reluctant to give up control in a project, but those who do are more success-



**Station area design determines the difference in transit oriented design.**

Image courtesy of GB Arrington.

## How to Plan and Design a High-Performance Transit Oriented Development

ful in achieving their goals.

Third, the project must be market driven, not TOD driven. It's vital that the fundamental market dynamics of the region are understood before the project begins. The development must be transit supportive, but not transit dependent. This means that you can build a new development before the transit system comes, becoming fully functional by the time the station is built, only becoming better with the added amenity of the transit.

Lastly, design for the pedestrian. Remember that every transit trip begins and ends with a pedestrian trip. Make the development accessible and enjoyable for the pedestrian.

### Planning for TOD

To successfully plan for TOD, proactive steps must be taken by planners early in the development process. A successful development will fit into the regional vision. Leadership is also important for the project to move forward. Creation of TOD is a complicated process, and a local leader with a long-term vision must be a strong proponent of the project.

Funding is also a challenge to TOD. It takes a lot of money to create a successful project, so significant financial backers must be assembled. Station area plans must also be developed, with entitlement issues resolved quickly. In the end, the entire process of planning for TOD must be streamlined by local planning officials in order to make TOD less complicated to develop. Sprawl is relatively simple to create today, and it happens easily for those involved. TOD is complex and messy, and planners can have a significant impact in transforming the "red tape" into a "red carpet" for those wanting to be involved in this type of community building.

Density is one issue that can significantly affect transit-oriented development success. The Pearl District

of Portland, Oregon is one case study for the impact changing density levels on a project. Having transit come to the area moved the density level up in the community, and there was a higher return on investment for the financial backers of the project. It was originally planned for 16 units per acre, but the density



maximums were moved up to 130 units per acre in exchange for infrastructure investment by the developers. The market has now pushed the density level above 130 units per acre, and there have been more

than 2700 residential units built, with more than \$750 million in development since 1997.

Changes in density can affect the modal split in a community. In order to support a bus system, you must have a minimum of 6 or 7 developmental units (DU) per acre. A rail line needs 9 to 25 DU per acre. At fifty or more DU per acre the number of auto and non-auto trips are equal. An increase in density by 10% translates into 5% more transit trips. When you take a long-term view and begin planning early, density can be a beneficial and successful key to improving your community.

An example of a community that has planned well for TOD is the Rosslyn-Ballston corridor in Virginia. A TOD plan was adopted in 1974, and since that time there has been more than 25 million square feet of office space developed and 14,400 housing units built along the corridor. Today more than 25% of the housing in the entire county is located at stations between the Rosslyn and Ballston stations. The entire community shifted from almost completely auto-oriented to distinctly pedestrian oriented. As a result of the development of this TOD, 73% of the commuters walk to transit in Arlington! They have successfully shown that when land use patterns change, transportation behavior is significantly changed.

### Market for TOD

The market for TOD is firmly established. In fact, mixed-use TOD was rated a top prospect in 2005 Emerging Trends in Real Estate. Communities that

## How to Plan and Design a High-Performance Transit Oriented Development

have adopted TOD in their areas have since significant increases in property values and rental rates. The demand is no longer debatable.

Developers have come to support TOD because it outperforms most other real estate products. The demand for TOD around the country has increased much faster than other forms of development in recent years. Developer's largest concern is dealing with entitlements. It is essential that planners hoping to encourage TOD in their communities get entitlements in place in order to get rid of the uncertainty for developers.

Market research has found that by 2025 there will be more than 14.6 million households that will want to live next to transit. Practically all communities in the United States lack the plans to allow this demand to be met. Sixty-four percent of the demand will be from households without children, either childless couples or single households.

Surveys of residents in Portland TODs found that several factors draw people to live in these communities. Overall, it was found that residents like "the ability to walk to a pint of milk." In other words, they like the independence and convenience of living in a community where their needs can easily be met. They want a well designed community and quality services in their community that can be easily reached by foot. Developers have found that it is more profitable to sell a community than a house. They sell the fact that you can walk to the main street, to restaurants, and to parks. Planning these amenities add to the cost of the development, but it merely increases the value of the homes within the community.

In order to create such a market in your community, leadership is absolutely vital. A political champion is the key to building coalitions, marshalling resources, and resolving disputes. In Englewood, Colorado, the leadership of the city was the key to a successful TOD. A 55 acre failed mall site was converted into a highly successful TOD. A new city hall was built in the TOD,

and 438 residential units. It was the city that assembled the land and created the housing in order to support the long-term growth in the area.

### Build a Place, Not a Project

TODs must be an effort to build a place that will be supported by the community and influence future development. It should not be a project that is built hastily in a community, with no regard given to the broader goals of the area. The planning of a TOD must be part of the community strategy for the area. Planners should not enter a neighborhood with a fully form plan for the community, but ask the community what their vision is for the area, and ask them how transit can help them achieve their goals. It is vital that community members are engaged early in the conversation about the development of new places in their neighborhoods.

It is essential that the land around the station is used efficiently to maximize the location as the catalyst for the surrounding land. The Round, in the city of Beaverton, Oregon, is a development at Beaverton Central Station with 240 residential units and more than 500,000 square feet of office and retail space. The Round also holds the distinction of being the world headquarters of Linux, a software development company. A recent survey by Jones Lang LaSalle found that 70% of employers in the "knowledge economy" preferred TOD sites to other sites due to their character of place and activity.



Eastside Village in Plano, Texas, is the most successful example of TOD on the Dallas Area Rapid Transit system. The city was involved early in the process, and as a result the station was moved in order to take advantage of city-owned land to create a "place" in the community. The city assembled a 3.6 acre site and also upzoned the area to a higher density level around the station. Robert Shaw was selected to develop the project, and he required that a higher density was established in order to make the place function. It took three months of working with the existing neighbor-

## How to Plan and Design a High-Performance Transit Oriented Development

hoods and businesses in order to get the density that he required. The development no longer has a park and ride next to the station, but has a parking structure in the development, but uses the area around the station for more productive uses.

Mix of uses is a strategy that is difficult to implement, but highly beneficial. The mix of use can either be horizontal or vertical in orientation, with vertical being much more difficult than horizontal. However, mixing of uses vertically gives the most benefit in boosting transit ridership and reducing auto-use in the community. In order for mixed-use development to be successful, an experienced developer must be involved. A developer with existing relationships with lenders and contractors is the key making mixed-use developments work.

### Transit and the Automobile

In order to design transit in a way to maximize operations while opening the door for TOD, it is essential that all stakeholders are involved early in the planning process. Organize a charette with all stakeholders at the table and encourage them to help make decisions in the design process. Create a tool that can be applied to each phase of the design and is understandable to those who will be creating the project. It is also important to help the engineers of the project understand the thought process behind the decisions that have been made in order to help the realization of the project reflect the stakeholder's interests.

In creating a transit system, it is important to recognize that no all stations will have a large development with hundreds of residents and businesses. Some stations will be primarily auto oriented, and will need to be planned accordingly.

Parking is always a huge challenge for transit-oriented development. It often determines if the development is a financial success or not, and parking is also the distinction between a TOD or a TAD.

Structured parking may cost anywhere from four to ten times more than surface parking, which may add \$20,000 or more to the cost of each residential unit in

the development. One problem with planning for TOD is that although TODs behave differently than traditional developments, there are no definitive parking ratios for TODs that set a standard throughout the industry. Lenders usually require conventional parking ratios for TODs, even if cities and communities do not. Many cities say that their most common tool to induce TOD is the ability to reduce parking requirements near stations, but they also say that it is their least effective. In order to make parking a working part of the equation, cities must be able to require, not just allow, reduced parking requirements for TODs.

To successfully create parking requirements for a TOD, maximums must be set by the city. Cities should make the maximum parking requirement 125% of the existing minimum, and remove the minimum parking standards for TODs. Developers must also be provided a way out of this limit if they absolutely need more parking.

There are some rules of thumb to be followed for "parking" a TOD. Reduce the residential parking by 20%, office parking by 15%, and up to 25% for mixed use areas. When parking is reduced, that adds greater responsibility for management of that parking, in order to control demand.

Mockingbird Station, on the DART system in Dallas, Texas, was required to build much more parking than they ultimately needed. It is estimated that \$6 million was spent in excess parking. The development was required to behave like any other development in Dallas, without consideration for its orientation toward a different transit mode. In the end these excess costs are passed down to homebuyers and renters in the development, making the TOD less affordable than it would have been if parking was evaluated differently in TODs.

Some cities have seen some success in converting existing transit parking areas to TOD. There have been more than fifty conversions already planned or underway in the US today. There are two contributing factors to this rise in conversions. First of all, the new Federal Transit Agency Joint Development Rule allows transit agencies to sell the land that the parking is on to private de-



## How to Plan and Design a High-Performance Transit Oriented Development

velopers and keep the money. Secondly, land value has increased rapidly along transit networks across the US, making other land uses more desirable. One major barrier to this phenomenon is the 1:1 parking replacement requirement in place in virtually every city. Having to replace each stall that is removed with another parking stall somewhere else discourages the conversion. The elimination of this rule is seen as a major priority for the encouragement of TOD around the country.

### What Kind of TOD?

With the varying types and densities of TODs developing around the United States, it is important that new developments are matched with the character and needs of existing communities. A mismatch between a community and a kind of TOD can determine the failure of a new project.

Several key elements can determine what form a TOD takes. First of all, density needs to be set for the TOD. Appropriate densities vary from place to place, but in the end the density should be higher than the existing community average. Also, a quality pedestrian environment must be developed in order to create the kind of place that people will be willing to experience and support. Uses should be mixed, as appropriate to the specific site. There must also be a designed and defined center, a place that is created as the heart of the development.

The most important word in creating a TOD is “no.” In order to create the kind of place that will ultimately be successful, it is important to be selective with new

tenants for the TOD. These choices should be evaluated by determining how the outcome will relate to the community.

In creating a TOD, the most important part of the project is the first 600 feet around the station. This is the area that needs the greatest intensity of use. From 600 to 1500 feet, intermediate densities should be implemented, gradually stepping down into the existing community. Buildings should be oriented appropriately to the station and other transportation networks, both auto and pedestrian.

### Conclusions

The market for TOD today is real, and growing stronger each year. It is essential that planners prepare for growing demand for TOD in their cities and make the process easier to get through. Planners should prohibit uses that they don't want in their communities and should encourage design of distinct places and communities, not merely new projects. Communities new to TOD design should start with “demonstration” projects that implement just a few aspects of transit-oriented development. Trying to create a full-blown TOD when a city is new at the process can make the entire development process seem overly burdensome and difficult and discourage developers that would otherwise be interested in being involved. Creation of partnerships between stakeholders is essential to a successful TOD. Last of all, focus the design on the pedestrian, and link the new place to the vision of the existing community in order to achieve greater support and participation by those who will be neighbors to the new development.

# Liveable Lattes: TOD and Commuter Rail Station Planning

- Art Brown**, MetroLink, Buena Park, California
- Mahlon Clements**, Zimmer Gunsul Frasca, Seattle, Washington
- Kammy Horne**, DMJM Harris, Phoenix, Arizona
- Louise Rice Lawson**, City of Hercules, California

## Everett Station

**Mahlon Clements**, Zimmer Gunsul Frasca, Seattle, Washington  
mcclements@zgf.com

Everett, Washington is a growing high-tech center, located 30 miles north of Seattle. The city has grown over the past few decades as Boeing has expanded operations there, and major transportation problems have emerged as the city has expanded.

In recent years, Everett has leveraged a large amount of development by using commuter rail. A major commuter hub has been built as part of the system, with great success in drawing more people into regular use of the transit system. They attribute their success to four key issues: partnerships, location, transit choices, and placemaking.

From its inception, Everett Station was intended to be more than just a transit center. Several complementary partnerships were formed that have developed into additional uses at the station. Eight colleges now offer extension education services at the development, as well as job training and immigrant resources. A housing resource center is located in the station, as well as a large meeting room for public or private use. With these added partnerships, the building is now in use at all hours, rather than just the busy commute hours.

When choosing the site, the city took into account sev-

eral factors. The site chosen is near downtown Everett, but not in the immediate downtown area. A development downtown would have cost the city more than three times more, and would not have been able to be as large as the station is today. The city owned a brownfield property one-half mile from downtown, near the river. The station was located here in order to create a link between the larger brownfield site and downtown, with the view that this brownfield site would become a prime location for future development.

There are many transit choices to be made at Everett Station. The commuter rail line to Seattle comes to the station, as well as the Amtrak lines to Chicago and Vancouver. Light rail and street car connections can be made there, as well as local and regional bus services. There are also facilities for taxis, bicycles, and private cars. Due to its proximity to downtown there are also significant pedestrian linkages to the station.

**The station's present location was chosen in order to create a link between the larger brownfield site and downtown Everett, with the view that this brownfield site would become a prime location for future development.**



Another goal of the city in developing Everett Station was the creation of a significant public space. They began first by soliciting advice from the community in public meetings. By allowing the public to determine what kind of place the station would be, actual needs could be met there, as opposed to what the planners viewed as community needs. The city created the building first, not worrying early on who was going to occupy the tenant spaces. They made the building inviting, a place where people would meet, whether or not they were using transit. Artists were also involved in the planning process in

order to make some great places for display of public art.

So where's the transit-oriented development in all of this? The city planners took a localized approach to spurring growth in the station area, wanting to draw in services for the locals before they brought in outside people. Today there is lots of parking around the station, and TOD has been resisted by some of the decision makers in the city. An overlay district has been created

## Liveable Lattes: TOD and Commuter Rail Station Planning

for the station area showing what a long-term vision for the area could be. Several principles have been incorporated into the planning for this district that will spur future development in the area. They include:

- Build upon existing assets
- Improve area appearance
- Develop clear connections to the station
- Encourage transit-supportive development
- Encourage quality similar to the station itself
- Create a district with a strong sense of place
- Improve public safety
- Encourage reuse of existing buildings
- Focus development as an employment center

The community is proud of Everett Station today. Since its opening in 2002, the area has only improved in character and community value. It has received architectural and planning awards, and support for transit-oriented development around the station is growing.

United States Senator Patty Murray spoke about Everett Station, “Everett Station does three things that I really care about, it makes education more accessible, it improves our transportation network, and it invests in the people of this community. When you put it all together you have one remarkable facility that will make a big difference in people’s lives”

### Ogden/Weber Transit Corridor Study

**Kammy Horne**, DMJM Harris, Phoenix, Arizona  
kammy.horne@dmjmharris.com

Ogden, Utah is approximately thirty miles north of Salt Lake City. Transit-oriented development started early in Ogden’s history when the transcontinental railroad first came through in 1869. Many of Ogden’s industries have revolved around its proximity to significant rail connections. A recent transit corridor study has been conducted in order to better serve the Ogden community and improve connections between major centers within the city.

A large intermodal transit center is now located in downtown Ogden. This intermodal center will be one stop on a major commuter rail project that will link

Pleasant View (just north of Ogden) to Salt Lake City. The transit study looked at improving connections between the intermodal center and Weber State University, on the east side of the city, and McKay Dee Hospital, four miles to the south of the transit center.

In the study, existing north-south and east-west connections were analyzed. Other modes were also looked at to determine which mode would be best to connect the transit station with these other centers. A stakeholder team was developed, including Weber State students, elected officials, business leaders, senior citizens, and environmental groups.



**Everett Station has become a community center, as well as a significant transit hub.**

Photo courtesy of Mahlon Clements.

A good deal of time was spent on purpose. The stakeholders worked on creating goals that would be the best use of public funds and that could be measured in the future to determine if they were successful. The study’s purpose was determined to be the following: Provide a high quality transit service that connects the Ogden Intermodal Center, Central Business District, Weber State University and McKay Dee Hospital.

Several needs were identified within the scope of this purpose. A distribution service was needed that would connect these centers to the intermodal center. Revitalization was determined to be needed in the downtown central business district. A more visible presence was

## Liveable Lattes: TOD and Commuter Rail Station Planning

needed for transit in the Ogden area, and frequency, reliability, comfort, travel time, simple routes, and convenience all needed to improve for the transit system.



Overall, the study process was seen as an opportunity for involving the public in the decision making process, not just informing them of coming changes. It was found that people are willing to give some creative input into the process and that they want to be included in decisions that will affect their quality of life. While the public doesn't always understand the implications of transit investments, they are willing to learn and will be supportive of choices that they feel they have been a part of making.

### Hercules, California

Louise Rice Lawson, City of Hercules, California

The community of Hercules, California is located on San Pablo Bay, north of San Francisco. Home to only 23,000 people, the population is young, and serves mostly as a bedroom community for the larger metropolitan area. Since 1893 it has been connected to San Francisco by boat and by train. In the 1960's the city of Hercules began the planning process to develop additional residential areas. Hercules' location on the bay and along the I-80 corridor are prime factors in its desire to develop its transit system.

In the 1990's the industrial areas of the city were cleaned in phases in order to open the lands as new developable areas. In 2001 a charette visioning process was held to aid the community in planning their own environments. It was at this stage that the concept of transit-oriented development began to have wide support from the community, who expressed a desire for the new developments to be walkable and close to transit.

The master plan for the development, as generated by the community charette, includes four districts, each with a distinct character: a waterfront district, a central district, a new town center, and a hill town. The master plan document was written to provide design and regulatory framework for the new residential units to be built, as well as for the commercial spaces, parks, and public spaces.

The multimodal center planned for Hercules will include ferry, bus, and rail transit access. Both the Union Pacific railroad and the Capital Corridor companies have partnered with the city to make the project a success. A quality consulting team has also been assembled to make this project one of the most significant TODs in California.

A critical component of the transit center will include the San Francisco Bay trail, which will connect the area to regional recreational uses. The ferry terminal and rail station will be connected to parking areas, as well as pedestrian trails. Hercules is also included on the Capital Corridor's 170 mile commuter rail plans, connecting Sacramento to the Bay Area. The ferry terminal is anticipated to attract a ridership of 250,000 by 2025. RDA funds will be invested to support operations for the first 3 years, until ridership is increased, at which point more capital funds will be invested to support the high cost of ferry operations.

The project is underway, and has strong public support, since the public crafted the master plan. The area is becoming more pedestrian friendly, and the access to transit for the community will be excellent.

# Developing TOD Around Rail

Ron Stewart, Moderator, Zimmer Gunsul Frasca, Portland, Oregon  
Cheri Bush, Dallas Area Rapid Transit, Dallas, Texas  
Tim Van Meter, Van Meter Williams Pollack, Denver, Colorado  
Reed Everett-Lee, Carter & Burgess, Ft. Lauderdale, Florida

The creation of transit-oriented developments (TOD) around rail requires the collaboration of many stakeholders. Communities must support the development, agencies must aid in the planning process, and developers and designers must invest time and money into making the development possible economically and logistically. Regulations need to be supportive of the creation of TODs, and the developer needs to be capable and willing to participate. Without these groups getting together on the issues important to transit-oriented development, the creation of new livable communities will be much more difficult.

## TOD Case Studies

Reed Everett-Lee, Carter & Burgess, Ft. Lauderdale, Florida  
reed.everett-lee@c-b.com

Many issues affect the outcome of a transit-oriented development process. One of the primary issues that must be addressed is the land use and development policy that governs the form of a TOD. A focus on land use issues can be the difference in a successful or unsuccessful development.

The Valley Metro Rail system is now under construction in the Phoenix, Arizona metropolitan area. Phoenix, Tempe, and Mesa have each used overlay districts to support the development of TODs in their cities and focus the development on pedestrian use.

MetroTransit in Minneapolis/St. Paul, Minnesota has focused on station area master plans. They have developed zoning overlay districts for each of the station areas to implement their master plans. Minimum floor-area ratios have also been set in order to create the density needed to make the TODs at stations successful.

In St. Louis, Missouri, MetroLink has been supported since its inception by Citizens for Modern Transit, a citizens group that has been instrumental in creating community support for light rail. The citizen's group has now shifted their focus to support the steps necessary to create transit-oriented developments at Metro-Link stations.

Houston is famous for its lack of zoning ordinances, so the Metro system of Houston has relied on community non-governmental organizations and management districts to generate the tax revenue needed to create TODs. Tax increment financing (TIF) has also been implemented to fund TOD projects.

From this small sample of how the cities of the US address the creation of TOD, it is apparent that each city is different in how they address land issues. Even with favorable regulation and ordinances TOD does not automatically happen. However, a lack of supportive regulation does not necessarily preclude the creation of TODs. In the end, a partnership must be created of those with the common goal of more transit-oriented development in their community.

**“If you plan cities for cars and traffic, you get cars and traffic. If you plan for people and places, you get people and places.”**  
- Fred Kent

## Dallas Area Rapid Transit

Cheri Bush, Dallas Area Rapid Transit, Dallas, Texas  
cbush@dart.org

The DART system of the Dallas area has had remarkable support from the suburban communities surrounding the City of Dallas. The city has no supportive zoning ordinances for TOD, but the suburban communities are actively developing station area plans and assembling property to create mixed-use districts along the DART system.

The Dallas Area Rapid Transit systems serves an area of 700 square miles and twelve member cities, and has experienced growth over the last few years that would have seemed highly unlikely even ten years ago. Demand for TOD housing units is expected to double in the next twenty years, and by 2025 Dallas will rank second only to Los Angeles in total number of TOD units, if growth continues at current rates.

## Developing TOD Around Rail

In 1996 the first leg of the DART system opened, with many skeptics doubting Texans would be willing to get out of their cars. With the average Dallas resident stuck in traffic for 61 hours a year, it's not surprising that many now see the benefits of rail transit and want to live within walking distance of a DART station.

Today DART estimates that there is approximately \$1.3 billion in TOD investment along their network, within one-quarter mile of existing and planned stations. Studies have shown that residential property values in TODs have consistently increased at a faster pace than residential areas not served by rail. In recent years there has been a 39% increase in residential values and 53% increase in office space values.

Mockingbird Station has been a success story for DART. A developer created a 240 unit residential development at the station from an old telephone cable warehouse. The development grew to include retail and other amenities, and today it is 96% occupied, with more development planned for the area.

East Plano was suffering from a deteriorating downtown, so when a DART station was planned for their downtown district the city was proactive in assembling



### Dallas's Mockingbird Station.

Photo courtesy of Cheri Bush, DART.

property and planning how they would encourage growth at the station. At the 15th Street Village Development in Plano, developer Richard Howe planned town homes and condos, choosing the spot because of proximity to the station.

Other developments along the DART system include Galatyn Park, a popular place for community events, and West Village, with more upscale development. Downtown Dallas has also experienced a growth in activity with the advent of the DART rail system. Several older buildings have been redeveloped for residential use, with a wide mix of for sale and rental properties.

Near Cedar Station on the south side of Dallas is a development that has created a community in what was



### Future plans for Irving Station.

Photo courtesy of Cheri Bush, DART.

once a light industrial area. An old Sears' distribution center was converted into residential lofts, and the ground floor of the building was made into live/work units for local artists and small stores owned and operated by residents of the community. The developer donated land for the new Dallas Police administration building in order to bring in the element of safety and restore activity to a once-blighted neighborhood.

As DART expands its rail system, several communities are preparing for the newly planned stations. The Farmer's Branch station is scheduled for completion in 2009 or 2010, but the city has already purchased 95% of the property around the station and passed a formed based zoning code. The Carrollton Square community is not only getting a light rail line from DART, but is also going to be connected to Denton County to the north. They are actively planning to become a multi-modal hub at the completion of the DART station in 2010. Likewise, Irving Station is getting their zoning aligned to support a TOD when their new station is completed.

## Developing TOD Around Rail

DART has learned a few lessons in helping transit-oriented development become reality. Overall, the market will influence what is built, but you must have a concept for what you'd like to see in that neighborhood. The process of creating a TOD is a joint venture of cities, transit agencies, and developers/investors. All of these groups must have a passion for the creation of the TOD. Also, it is important that a mixed used development fit with the existing neighborhood, and you must accept the fact that every station will not be a large development. Sometimes a small neighborhood station is more in keeping with the community that is in place. It may take a lot of time and effort to get a TOD built, but in the end the tax base of the city will increase, and the overall quality of life will improve for everyone.

### Ten Years of TOD in Denver

Tim Van Meter, Van Meter Williams Pollack. Denver, Colorado  
tim@vmwp.com

In 2004 the voters of Denver voted in favor of a tax that would fund the completion of their transit system, at a cost of \$4.7 billion. This was a landmark achievement for a region that many doubted would ever create and use a transit system. The Denver Regional Council of Governments (DRCOG) has outlined as a goal the creation of "higher-density, mixed-use, transit and pedestrian-oriented urban centers throughout the Denver region." Blueprint Denver, the comprehensive plan for Denver, also supports TOD as the organizing concept for the region, and recognizes the "important relationship between land use and transportation." With this foundation of support, Denver has a plan for a system that will transform the way of life of many residents of the region.

Today the Denver region has three operating transit corridors. The first corridor built, the Central Corridor, is five miles long and has 14 stations. With this corridor Denver's transit authority was transformed from a bus only system into a multi-modal system, successfully incorporating light rail into their general plan. Incremental changes in the developments along the corridor have happened over the years of operation.

The RTD found that there was a widespread misunderstanding about the relationship of transit to land

use, and that a new train station alone was not going to transform a neighborhood. Many factors are required for change to take place along a new system. They also found that assembling land to build a TOD on their system was the biggest obstacle to overcome. Today the Central Corridor is a huge asset to the communities it serves, and has been successfully operated since 1994, with a spur added in 2002.

The Southwest Corridor was completed in 2000 in order to expand the service of the Central Corridor. It was built in the right-of-way of a highway, severely limiting the TOD options for the corridor; however, twenty-year ridership projections were reached on the first day of operation, showing that the demand for additional transit was strong in the Denver region. The city pushed heavily for a major development at Englewood, and fast-tracked the development in order to open it at the same time that the station opened. Many opportunities were lost at other stations. At the Mineral & Santa Fe Station a large development was built, but it was not situated to be conducive to pedestrian access from the station due to a lack of political will and vision on the part of the stakeholders. It is considered a transit adjacent development (TAD), not a true TOD.



### TOD on Denver's Southwest Corridor.

Photo courtesy of Tim Van Meter, Van Meter Williams Pollock.

In building the Southwest Corridor RTD learned the importance of paying attention to the market in planning for transit-oriented developments. Transit is an amenity, not the main driver of TOD. In order to be successful, development must follow certain formulaic conventions of the development industry.

The Southeast/T-REX Corridor is expected to open in

## Developing TOD Around Rail



**A transit ready development on Denver's Fas-tracks system.** Photo courtesy of Tim Van Meter, Van Meter Williams Pollock.

the fall of 2006 in response to severe congestion on the highways into downtown Denver. It is being built in conjunction with the widening of a freeway. During this project, many of the jurisdictions affected have begun planning early for development in their communities. Flexible but predictable zoning codes have been developed to encourage TOD along the new corridor. Incentives have also been established to encourage high densities at the stations and urban style housing. Once again, this corridor is being built in the right-of-way of a highway, seriously limiting the ability to create mixed-use communities along the new line.

As the construction of the Southeast Corridor nears an end, the RTD has learned that land use should be a primary consideration in the planning of a new transit corridor, not an after-thought. Building a light rail line in the cheapest right-of-way may seem like the best option financially, but in the end it makes the system more difficult to use, community difficult to establish in the new areas serviced by transit, and orients the rail line more to the automobile than to the pedestrian. They also discovered that using the design/build process is great for transit, but makes building a TOD much more difficult, due to the disconnect with land-use planning.

Denver's FasTracks plan will add 119 miles of light rail and commuter rail to the existing system. With an anticipated completion in 2016 and a cost of \$4.7 billion, the plan is nothing if not ambitious. The RTD has been pleased with the response from the public sector. Early station planning is already happening for the new system, and developers are creating "transit ready developments," primed for the addition of transit as an amenity to their site. Even Boulder, historically a city that has shunned new growth, is looking at a 400 acre development around the new station in their city, which will make it one of the most heavily used stations on the entire system. The construction of previous corridors has prepared many for acceptance of this form of development in their own communities.

RTD recognizes that the transit system is now focused more on the automobile than the pedestrian. It is en-



**Denver's Southeast Corridor in the highway right-of-way.** Photo courtesy of Tim Van Meter, Van Meter Williams Pollock.

couraging the development of partnerships in order to better advocate for TOD in the Denver region. Land use planning and transit planning must be equal partners in the process of creating transit-oriented development. It emphasizes the need to create places along the transit system, communities that relate directly to the system.



# Transit Oriented Development Design Guidelines: A Roundtable Discussion

**John Muth**, Charlotte Area Transit System,  
Charlotte, North Carolina

**Laura Harmon**, Charlotte-Mecklenburg Planning  
Commission, Charlotte, North Carolina

**Brian McCarter**, Zimmer Gunsul Frasca, Portland, Oregon

**Chris Augenstein**, Valley Transportation Authority,  
San Jose, California

Many public transportation systems have developed transit-oriented development (TOD) guidelines. These manuals help to educate developers and municipalities on essential principles relevant to TOD, and take a lot of the guess work out of the complex planning process.

## DART Station Area: Development Manual

Brian McCarter, Zimmer Gunsul Frasca, Portland, Oregon  
bmccarter@zgf.com

DART (Dallas Area Rapid Transit) has worked to develop a design manual that shows developers and municipalities in the North Texas region how to create quality urban growth. The North Central Texas Council of Governments has joined with DART in promoting this type of sustainable, transit-oriented development. DART's manual includes station area designs, platform designs, as well as station area guidelines to inform the developments adjacent to their stations on appropriate densities and circulation patterns.

A few basic principles can guide the beginning stages of the TOD planning process. First, it is important to determine the environment of the potential station (urban vs. suburban). The station type and size should be well integrated with its environment. Second, provide

a hierarchy of streets within the station area including the following:

- Local streets- forming development blocks of approximately 300 feet minimum to 380 feet maximum length; 2-3 travel lanes, two way circulation, parking both sides; 60 feet minimum to 70 feet maximum right-of-way.

**As good TOD continues to develop in the region, DART hopes that more and more of groups will become interested in TOD and actively pursue its creation.**

- Collector and access streets- at least one within a quarter mile radius of the station providing continuous access from the nearest major street with feeder bus routes directly to the transit center; 2-3 lanes maximum; boulevard section with a landscaped median keeps the scale appropriate; parking on one side away from station is optional

- Arterial streets- should not penetrate the interior of a station area; if present, arterial streets should only be at the edge of a station area.

DART attempts to use building mass to define the space in streets and intersections. They encourage building to the property line along at least half of each block face to provide continuity along the streets. This will promote ridership as well as create a sense of community. Corners are particularly important to define with buildings.

Open spaces should be sized appropriately for the density and scale of surrounding development. For example, an actively used small park is more

inviting than a rarely used larger park and provides for a feeling of safety among the people.

The intended audience for DART's TOD manual in-



**Station area plan included in DART's development manual.**

Image courtesy of Cheri Bush.

## Transit Oriented Development Design Guidelines: A Roundtable Discussion

clude its own board of directors, local planning departments, property owners, developers, planning and design consultants, and local citizens. As good TOD continues to develop in the region, DART hopes that more and more of these groups will become interested in TOD and actively pursue its creation in keeping with these basic design principles.

### Charlotte's Transit Station Area Principles

Laura Harmon, Charlotte-Mecklenburg Planning Commission, Charlotte, North Carolina  
lharmon@ci.charlotte.nc.us

Charlotte, North Carolina has been experiencing drastic growth over the last fifty years. Since 1960, Charlotte's population has grown 168%, while the land area consumed has increased even more, by 274%. This realization along with a projected 50% growth by 2030 propelled Charlotte to adopt a long-range transportation plan to mitigate this trend of rapid land consumption.

The principle components of Charlotte's plan are integration of land use and transit, increased mobility, and development of community character. The primary goal for land use and development was to concentrate a mix of complementary, well integrated land uses within walking distance of the transit station. The emphasis for the Charlotte plan is on residential, office, civic, and service oriented retail use.

The mobility component was intended to enhance the existing transportation network to promote good walking, bicycle, and transit connections. Mobility also includes serving a variety of travel markets, such as work trips, off-peak travel, or people who are dependent on public transit. Mobility involves improving access to selected areas, providing savings in travel times, and improving service reliability.

Character refers to the design itself, ensuring a relationship between built environments. The goal was to use urban design to enhance the community identity of

station areas and to make them more attractive, safe, and convenient places. This is accomplished in part through setting height requirements around station centers, with the tallest buildings closer to the station. Street scale is another important element of design that creates a safe atmosphere for pedestrians. Streetscaping, lighting, and street oriented design are high on the agenda.

Charlotte has focused the most development density in the quarter mile walking distance surrounding its transit stations, with intensity dropping off out to the half-mile walking distance. Within this circle, the city has attempted to diversify land uses as much as possible and has put in place minimum density requirements of

fifteen to twenty dwelling units per acre for all new residential development.

These guidelines have helped in the advocacy process of TOD in helping to educate local politicians and citizenry of benefits of

such development. By having clear-cut reasons for guidelines, the citizens have been more accepting of policies once thought reprehensible, such as higher densities. The Transit Station Area Principles document was adopted by the Charlotte City Council in November of 2001.

### Community Design and Transportation Program

Chris Augenstein, Valley Transportation Authority, San Jose, California

chris.augenstein@vta.org

One of the consequences of current development patterns has been the erosion of the distinct identity and sense-of-place that sets one district or community apart from the next. Current development patterns tend to lack the human-scale elements that create uniqueness and identify because auto-oriented development does not value design at that scale. When complementary land uses are clustered together, trips can be combined or even eliminated, using limited transportation resources more effectively. This also helps achieve the kind of critical mass that makes a vibrant public life



## Transit Oriented Development Design Guidelines: A Roundtable Discussion

possible.

Interconnection also plays an essential role in TOD. In well designed areas, residential subdivisions are connected with, not walled off from nearby stores and activities; transit stops, stations, and centers are functional intermodal transportation nodes; and station-area housing is dense and attractive, but also easily accessed by foot from the bus or train. Again, even from the transit agency perspective, cooperation of the local leadership plays an immense role in the success or failure of any transit system.

As a transit agency, Valley Transportation Authority of San Jose, California, has come up with a list of 10 “best practices” in integrating land use and transportation, which are included in its toolkit “Community Design and Transportation” (CDT). Some of the more notable principles follow.

Target growth to cores, corridors, and station areas. First of all, this reduces the need for residents to drive. Second, infilling and redeveloping existing areas diverts growth away from the urban fringe, conserving open space. Also, focusing growth in these areas may

reduce the need for local governments to build and maintain costly new infrastructure

Intensify land use and activities. While not appropriate everywhere, placing a higher intensity of uses on less land in strategic locations creates the critical mass of activity that is necessary to cultivate viable transportation options, and ultimately, a sense-of-place.

**“Sometimes you gotta create what you want to be part of.”**

**Geri Weitzman**

Provide a diverse mix of uses. This can reduce complete dependence on automobiles, and allow for greater community interaction through creating a pedestrian environment.

Design in context. Design with attention to local context helps communities create a unique identity and forges the connection that establishes a continuous “urban fabric.” Design in context means that the materials, design details, and architectural styles reflect and reinforce the unique character of the neighborhood.

Manage parking. Parking is vital because it affects both the built environment and the transportation system. Because it takes up enormous amounts of land, parking is perhaps the single most important element influencing the design of urban areas. Parking helps dictate the character of a place, determining whether it will feel isolated or integrated to the community as a whole.

## Reduced Transit Parking at Rail Stations

**Edward Thomas**, Washington Metropolitan Area Transit Authority, Washington, D.C.

**Val Menotti**, San Francisco Bay Area Rapid Transit District, Oakland, California

**Dan Hertz**, Washington Metropolitan Area Transit Authority, Washington, D.C.

**Jeffrey Tumlin**, Nelson/Nygaard Consulting Associates, San Francisco, California

The majority of rail stations in our country are surrounded by large parking lots, catering primarily to those who live far from transit but still wish to enjoy the benefits of rail. The idea behind transit-oriented development is that stations will become places in their own right, surrounded by communities that rely on the transit as a primary transportation mode. Until we are able to reduce the predominance of parking at rail stations the communities around them will not reach their potential of being truly enjoyable, walkable, and desirable communities.

### San Francisco's BART

Val Menotti, San Francisco Bay Area Rapid Transit District, Oakland, California  
vmenott@bart.gov

It has not been easy to get the Bay Area Rapid Transit system to where it is today. BART relies on the cooperation of regional agencies as well as local and state government. The first thing that needs to be considered in planning for a transit system is the overall land use at and around the system. Stations and their environments are especially important. There is a hierarchy of needs that need to be addressed at each station.

First of all, stations must be accessible for pedestrians. If most of the people who take the rail line have to drive to reach it, the convenience of the transit system is severely reduced. Second, the station must be integral to the wider transportation. If people cannot walk to the station, there should be another mode of trans-

portation to the station that blends with the character of the neighborhood. This rarely means a large parking lot. The third need is cost effectiveness. It would be pointless to build a rail system that would be losing money to the point that it cannot continue to operate because of overwhelming overhead costs.

BART worked to make transit-oriented development (TOD) feasible around its stations. The density of the areas around the proposed stations had to be examined so that the station would be able to support serving many riders per station. The overall character was essential so that the stations would be appealing. In order to have a successful TOD, it must not seem disconnected by its surroundings. Finally, there had to be other access modes made such as buses so that potential passengers can get to the stations. Overall, the policy had to be designed so that it fit the ideals of TOD as well as the areas themselves so that they would be efficient to the users and still be profitable.

After making a general plan, experts developed three scenarios of potential ridership based on parking lot size and location around transit stations. The three scenarios were termed "aggressive," "medium," and "conservative." The aggressive scenario replaced all parking lots with development. The medium scenario had some parking replaced but not as much as the aggressive scenario. The conservative scenario would only have 50% of the spaces replaced.

When these scenarios were evaluated, the aggressive method was ruled out because it was not very feasible. The parking was what brought the majority of riders, and if all of it was replaced, ridership would decrease too sharply. The medium scenario had a lot more riders than the conservative scenario because it had more riders due to there being more residences and businesses being nearby to bring more riders with cars. However, the conservative scenario cost the most because of the upkeep of the parking lots. Therefore, the scenario that was the most likely to succeed was the medium one. It allowed the most parking spaces to be replaced, but still enough parking so that businesses had adequate space.

**Until we are able to reduce the predominance of parking at rail stations the communities around them will not reach their potential of being truly enjoyable, walkable, and desirable communities.**

## Reduced Transit Parking at Rail Stations

### Parking Revenue Analysis

Dan Hertz, Washington Metropolitan Area Transit Authority, Washington, D.C.  
dhertz@wmata.com

When parking areas around transit are reduced, the total ridership for the transit system is affected. The impetus to reduce parking at transit stations usually comes from the public sector, which can affect the market value as well as the community value of the station area.

To reduce parking at transit stations, most agencies require that there is financial justification for eliminating parking space. Agencies that rely on parking around their stations for revenue generation may be particularly averse to reducing parking. If consultants can determine the amount of ridership increase from development around stations, and how that will affect agency revenue, the transit agency may be more willing to allow parking reductions. Market demand for parking must be understood, as well as the market demand for other developments around the station.

Other factors that must be considered in evaluating how much parking can feasibly be eliminated at transit stations include modal split, ridership demand, real estate revenue, land use type, and station location. Fare rates must also correspond to the cost of parking in the downtown area, which can affect user's willingness to ride transit.

### Parking Reduction

Jeffrey Tumlin, Nelson/Nygaard Consulting Associates, San Francisco, California  
jtumlin@nelsonnygaard.com

Vancouver, B.C. has worked to reduce parking areas around its transit stations. Vancouver is an unusual TOD city because it has a low population density compared to other TOD cities, but is still extremely efficient with 80% of its residences being single family households. This was a success because the city made

sure it was very connected and had focused growth that was carefully planned out.

One of the things noticed by transportation groups was that road costs went down as parking was reduced due to fewer cars being on the roads. Vancouver now has almost no parking because its transit system has been very thoughtfully planned. In the long term, the amount of riders has increased as parking has been reduced, and the revenue to the transit agency has increased as ridership has increased.

In order to calculate the feasibility of reduced parking, the first thing that must be evaluated is the land value of the land being used by parking. Some parking is needed, but as TOD develops around stations, ridership will continue to increase, even with very little parking.

The next thing that must be explored is the social and environmental justice impacts of replacing parking at station areas with TOD. Agencies must make sure that their plans use land and other resources conservatively. They also have to be considerate of the people who live near the transit system, creating community support for TOD rather than strong opposition to new development. Other impacts must be also be examined that are more specific to the neighborhood context. Communication must happen between the planners and the elected officials. Without this, the project will go nowhere.

Many medium sized cities are not sure if they can make TOD work for them efficiently. They can indeed work. TOD in medium cities just needs to be worked through analytically with analysis tools that would make it work well regardless of the city's size or economic state. As long as the place has an auto dependency that is exceedingly high, the transit system would be fully functional by getting rid of more cars on the roads. The hardest part would be the transition itself. People are slow to change, but will change when they see the effects on their quality of life.



# Creating and Sustaining “Place” with Transit

**Paul Zykovsky**, Center for Livable Communities, Sacramento, California

**Troy Russ**, Glatting Jackson, Orlando, Florida

**Rebecca Draper**, Los Angeles Neighborhood Initiative, Los Angeles, California

**Ellen Shubart**, Campaign for Sensible Growth, Chicago, Illinois

People are the catalyst that will turn a space in to a real place. Transit is a key element that can bring people together and make viable and vibrant places. Four characteristics of placemaking are sociability, access and linkage, uses and activities, and comfort and usage. These elements are each manifested at the intersection of land use and transportation. At the same time, roadways and poorly planned transportation can undermine efforts to create a great place.

## Station Types and Urban Design Framework

**Troy Russ**, Glatting Jackson, Orlando, Florida  
truss@glatting.com

The city of Charlotte, North Carolina is implementing a system-wide transportation plan that focuses on planning and design simultaneously in order to create and support placemaking.

Using established principles from their 2025 Centers and Corridors Plan and a system wide station area framework, transit planners in the Charlotte area have defined the role of stations in placemaking and the context that they reflect in the area. With this they have created an urban design framework that informs both the station area planning and the transit engineering of the system. The city is currently adding to the existing system, as well as retrofitting stations in order to be

more supportive of placemaking and transit-oriented development (TOD).

With these basic principles in mind, transit planners have created four types of plans for station service areas. The “walk-up” area, within a half-mile of the station, is the first type. These stations serve a localized area immediately around the station and can be grouped to provide better service. They are usually located near a minor street.

The one-mile service area of a station is served by bicycle and circulator buses. This is the most common type of transit station. They are reliant on bus connections to the station, but some users will arrive by car, so adequate parking is requisite for this type of station.

The three-mile service area for a transit station is accessed more by a feeder bus network or a large number of private cars. Usually located near a major thoroughfare, it is essential that adequate facilities are provided for all modes of travel near this type of station.

The final type of station has a five-mile service area. These are usually located toward the end of the line of a transit system. They are predominantly accessed by private car, and have good access to major roads and freeways. It is important to provide adequate park-and-ride facilities at these stations.



**Charlotte’s 2025 Centers and Corridors Plan defines appropriate uses for transit station developments based on urban location.** Photo courtesy of Troy Russ.

In creating places at station along a transit system, it is also important to understand that each station will be different depending on the context of the neighborhood that it serves. The Charlotte system has identified five context areas that define the types of development that will happen at stations along their system.

The first context type is the high intensity urban core. These areas have densities that are already transit supportive, but new transit stations will only increase

## Creating and Sustaining “Place” with Transit

service in these areas, not change the economics of the neighborhood. Since the TOD market is already strong, transit’s role is to fit in to the neighborhood and not disturb the existing conditions.

The second context type is the established urban neighborhood. These communities have individual characteristics that have been created over time that must be respected. Densities are also transit supportive. Communities take the responsibility to create vibrant places around the station.

The third type is the industrial community. These areas are not transit supportive, but are major employment centers. Their street network is generally well connected, although there may be physical barriers to TOD. Development of a TOD market in these areas may need assistance from the transit agency.

Established suburban neighborhoods are the fourth context type. This is the most common built form in the United States today. While these areas are well developed, they lack orientation or respect for the public realm. Densities are not transit supportive in these areas, and access usually comes from a few large roads. The market for TOD in these areas varies, and may need assistance to create public spaces.

The last type is new suburban neighborhoods and greenfields. These neighborhoods are developing on the outermost edge of the transit region, and are developing quite quickly. Connections to the transit system are limited, but the opportunity for future connections is great. These “end of the line” stations draw riders from a large area. The economics of

these areas are different, but the potential is greater, due to the open land found in these areas. There are usually few existing activity centers in these areas, and the market for TOD varies.

Using this understanding of station area types and the context that they are located in, Charlotte has created a new typology for the stations on its transit system. These principles will help to make livable and attractive public places that will benefit the communities they serve for many years.



### Chicago’s Campaign for Sensible Growth

Ellen Shubart, Campaign for Sensible Growth,  
Chicago, Illinois  
eshubart@metroplanning.org

Composed of more than two hundred Chicago area organizations, Campaign for Sensible Growth brings together government, civic, and business groups to protect natural resources, promote economic competitiveness, and support infill and redevelopment in the Chicago region. This organization is seeking to address the major issues affecting the quality of life in Chicago through public policy lobbying and leadership education.



**Technical assistance panels have helped communities in the Chicago region to create smart growth plans.** Photo courtesy of Ellen Shubart.

Chicago currently has the third largest labor pool in the United States, and expects to have a population of nearly 10 million by 2020. Development patterns are not currently maximizing the region’s investment in commuter rail. Campaign for Sensible Growth is seeking to change development policies in order to create more transit-supportive communities and improve the quality of growth in the region.

## Creating and Sustaining “Place” with Transit

The organization has seen success in building community through technical assistance panels (TAP), an intense two day panel review involving community members, the Campaign planners, and members of the Urban Land Institute (ULI). TAPs are hands-on experiences for local planners and community members, and rely heavily on local expertise. At the end of the process, communities are given an action plan that they can implement.

Communities are selected for TAPs by the Campaign using three criteria. They must be facing growth challenges, and have little internal capacity for that growth. They must also have TOD coming to their community or already in existence.

Several communities in the Chicago region have seen success with implementing TAP-provided action plans. Hanover Park is an older suburb with a train station adjacent to 26 open acres. With a 6-lane highway separating the developable parcel and the train station, the community has been able to create a plan for the site using smart growth concepts that came from the TAP process. Midlothian is another older suburb with a newly built train station. The TAP process helped them to change policies that would encourage redevelopment around the station area and eliminate auto-oriented businesses in the immediate vicinity.

The TAP program has been a success for Campaign for Sensible Growth. There are more towns applying for the program than they can currently handle. Since the Campaign doesn't want to compete with local planning consultants, they usually choose communities that lack the funds or staff to hire outside consulting. They have also found that many communities appreciate the prestige of ULI, a major partner, and are more inclined to follow recommendations coming from ULI. Local leadership has been the key for implementation of the recommended actions. The cost of the TAP program is usually between

\$15,000 and \$30,000, with the local community paying about one-third of this cost. The Campaign has found that communities are more likely to really use a plan that they have had to fund as opposed to one that was simply given to them.

### Los Angeles Neighborhood Initiative

Rebecca Draper, Los Angeles Neighborhood Initiative,  
Los Angeles, California  
rebecca@lani.org

Established in 1994, the Los Angeles Neighborhood Initiative (LANI) stimulates community driven neighborhood revitalization. LANI acts as the catalyst to leverage funds for local improvements, as well as spearheading community involvement in planning of

community spaces. In the 12 years since their inception, LANI has constructed more than \$15 million in neighborhood improvements. They have also

added an additional \$30 million in public, private, and in-kind improvements.

A recent project the Neighborhood Initiative has been involved with is the Koreatown Pavilion Garden. The site was a busy pedestrian and auto thoroughfare, as well as a heavily used bus corridor. Transit stops were located on both sides of the proposed garden, indicating great potential for quality public placemaking.

Prior to the improvement, the site was a barren lot of an odd shape, created by the rerouting of busy

streets. In January 2004 the groundbreaking was held, bringing together various partners, including the Korean American Chamber of Commerce, the Los Angeles Mayor's Office, the Department of Recreation and Parks, and several design and construction firms, among others.

The main goal of the project was to make up for the lack of a real symbol of the Korean community's heritage in the Los Angeles area. They wanted a place for

**Campaign for Sensible Growth has found that communities are more likely to really use a plan that they have had to fund as opposed to one that was simply given to them.**





## Creating and Sustaining “Place” with Transit

gathering and celebrations, as well as a feeling of increased security in the area.

Called “Da Wool Jung” (a place to live together in peace) by the Korean community, the park will house an authentic Korean pavilion, imported from Korea. Carpenters, roofers, and painters came from Korea, and a traditional celebration was held to bless

the main beam of the structure as construction began in the park. During Phase 2 of the project, landscaping and paving were installed, as well as other amenities that would ensure security and easy maintenance.

During Phase 3, additional Federal Transportation Agency funds were secured for the park with help

from Congressman Becerra’s office, and an additional \$200,000 was added to the budget to improve transit infrastructure and for additional improvements to the

park site. The city of Los Angeles has entered an agreement for basic maintenance of the garden, and community participation has been organized to keep the area clean and safe. An adjoining elementary school has agreed to include the park in its regular security

patrol, and other funds have been secured for future upkeep and amenity replacement.

When completed, the Koreatown Pavilion Garden will be a place that the community can be proud of, and one that will hopefully improve the area as a place where people can gather and enjoy quality public space.



**Los Angeles Neighborhood Initiative has worked with local groups to convert a vacant lot into a community park that is representative of the local Korean community.** Conceptual image courtesy of GDS Architects Inc.

## Industrial Water Views: The Last Urban Frontier

**Robert Apodaca**, McLarand Vasquez Emsiek & Partners, Oakland, California

**Chek Tang**, McLarand Vasquez Emsiek & Partners, Oakland, California

**Dan Tangherlini**, District Department of Transportation, Washington, D.C.

In cities throughout the United States private landowners and port authorities are searching for the highest and best use of important waterfront land. These under-utilized areas are being changed to lively mixed-use developments to create impressive gateways to their respective cities. The Bay Area and Washington DC both have exciting new projects that will drastically change neighborhoods that have been neglected for many years.

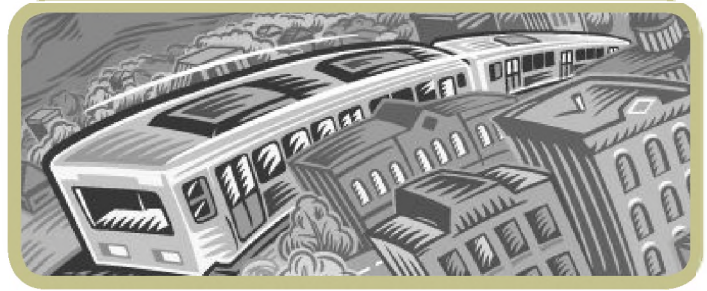
### California's Bay Area

**Chek Tang**, McLarand Vasquez Emsiek & Partners, Oakland, California

ctang@mve-architects.com

Urban waterfront projects often have similar issues that need to be addressed. They will have a significant impact on transportation infrastructure and must develop good circulation plans. They also have similar land use patterns and must plan for density and intensity of use. A balance of public and private development must also be made in order to preserve open space along the waterfront. Environmental and ecological issues are major factors that can affect the project, and the natural resources and wildlife on the site must be protected and respected. Lastly, urban waterfront projects require a regional vision.

San Francisco Bay is one of the most scenic and most heavily populated areas of coastline anywhere in the world. Like any site in a heavy populated area, much of this oceanfront land is very difficult to develop for a variety of reasons. It has not been until recently that "urban pioneers" have started to consider new ways to make developments work in these areas.



The Oak to Ninth project is a 35-acre site in Oakland overlooking San Francisco Bay. The site is currently owned by the Port of Oakland and is bisected by a transit line. The site planners have sought to use the transit line to "glue" together the community, rather

than allow it to divide the community in two. The concept of this "transit village" is to incorporate mixed-use developments built near transportation

hubs. These include a mix of residential, retail, and office space with attention to creating settings for people in which to interact.

With density set at 35-40 units per acre, there will be plenty of park space in the project. Parking has been a challenge for the site. In order to serve 3000 development units, plenty of parking was required. Because of

**It has not been until recently that "urban pioneers" have started to consider new ways make developments work in these areas.**



**A new development is being planned on San Francisco's waterfront to revitalize a neighborhood.**

Image courtesy of Chek Tang.

the natural environmental and soil factors of the site it was impossible to build parking underground. This made large parking structures requisite, which will add to the final price of the project and the individual housing units.

## Industrial Water Views: The Last Urban Frontier

The Richmond site is close to UC Berkley, and was once the site of a chemical facility. Originally planned to be a new research and development facility, due to changing economics in the Bay Area the site is now planned to be a mixed use residential development. The developer wants to create a unique and self-contained waterfront district, not necessarily directly linked to the city of Richmond, which is separated from the waterfront site by a freeway. Currently, there is no transportation connection to the site other than a freeway off-ramp. Planners have tried to develop a connection to the BART system, but the distance to the nearest station may make this unfeasible.

A site in San Francisco overlooks scenic Mission Bay and is not to far from SBC Park, home of the Giants baseball team. The client wanted a mixed-use residential area that could serve the nearby UC San Francisco campus. Due to retail stores preferring to stay in the nearby downtown area, the sense of community at this site needed to be strong.

The project consists of 100 luxury, market-rate condominium units. The development is comprised of perimeter two-story town homes masking a two-story interior parking structure. The remaining luxury flats and town homes are organized around a roof garden terrace which caps the parking garage. The entire building structure is constructed of poured-in place concrete with a painted exterior plaster finish. Most of the



**The Anacostia Metro station area will be redeveloped to connect to the new streetcar project.** Image courtesy of Dan Tangherlini.

town homes are reminiscent of the San Francisco town home tradition with ground floor entry stoops, while the upper levels hint at the “penthouse” lifestyle. The



ground floor units have direct street access, while the other units are accessed by elevator from the garage.

### Anacostia Streetcar Project

**Dan Tangherlini**, District Department of Transportation, Washington, D.C.  
dan.tangherlini@dc.gov

The Anacostia River is known as Washington’s “other river,” over-shadowed by the more well known and more scenic Potomac River. The Anacostia is considered an industrial river, home to the Washington Naval yards. It also acts as a barrier between the struggling west side and the developing east side. The District Department of Transportation envisioned a “connected” river that would cease to be a barrier. To do this DDOT focused on transportation investment.

Washington’s transit system moves people in and out of the city extremely well, but the city does not have adequate transit to move around the city. The first priority for the project was to connect the neighborhoods along the Anacostia waterfront with the rest of the city.

It was proposed that they build a streetcar connection to the Anacostia Metro station, generally along the same corridor as an existing rail line through low density residential and light industrial areas. The second iteration of the Anacostia Streetcar Project realigned the streetcar to run directly through existing neighborhoods. The streetcar alignment would provide al-

## Industrial Water Views: The Last Urban Frontier

ternative transit options in five of the eight Anacostia Waterfront target areas, better connecting the area with the rest of the Washington transit system.

Safety, access, and mobility were all goals of the Anacostia Streetcar Project. Pedestrian safety has been a serious issue in the areas, and the presence of a streetcar would act as a traffic calming device. The streetcars would also improve access to the Bolling Air Force base which would bring 15,000 workers through the neighborhood daily, sparking further development.

The Metro station in the neighborhood is heavily used, but is not easily accessed. The streetcar connection will improve the neighborhood connection to the station, and development is currently being planned to make the station area itself a destination. District of Columbia offices will be located here, as well as significant commercial development. Another government center

is planned at the end of the streetcar line, which will include the future DDOT offices.



The next step facing DDOT in redeveloping the Anacostia waterfront is convincing the local community of the benefits of the project. Construction of such a project through the local streets will be a bother to the locals, but if they understand the long-term benefits the

project will be more widely supported. The community has concerns about economic development in the area, but is also concerned about increased traffic congestion. A taskforce has been established to act as a liason between the governmental agencies and the local leadership. Their end product will be guidance and recommendations on how best to proceed with the design and implementation of the streetcar in the neighborhood.

## More Than Just Trains and Tracks: Station Art

**Brenda Tierney**, Regional Transportation District,  
Denver, Colorado

**David Allen**, Arts in Transit, St. Louis, Missouri

**Michael McBride**, Washington Metropolitan Area Transit  
Authority, Washington, D.C.

**Michael Moonbird**, Bad Dog Rediscovered America,  
Salt Lake City, Utah

From large ceiling murals and gigantic sculptures, to small mosaic tiles on benches, transit art is becoming more common in stations all across America. Art in transit integrates artwork into transit environments that people use every day. Transit artwork enhances transit facilities, and is usually commissioned specifically for transit properties. Transit art programs will enhance travel experiences of transit users, and they will add value to transit facilities. This type of artwork also serves to support the interests of the communities around the transit system.

Art in transit encourages pride in neighborhoods and in transit organizations. It promotes ownership by the community of local transit facilities, and because it enhances the quality of the transit experience, it also builds ridership. More people are willing to ride public transportation, either bus or rail-line, when transit art is in stations.

### WMATA

**Michael McBride**, Washington Metropolitan Area Transit  
Authority, Washington, D.C.

[mmcbride@wmata.com](mailto:mmcbride@wmata.com)

The Washington Metropolitan Area Transit Authority has incorporated transit art into many of its stations. Early involvement by a selected artist is vital in developing a transit art program. Having the artist on the base plan for the design of the facility makes the process simpler and more affordable. Also, through early artist involvement, larger and more complex themes and items can easily be es-

tablished. The architects can then build around what the artist had in mind for the facility.

Examples of early artist involvement can be found on such WMATA stations as: the Columbia Heights Station by Akili Ron Anderson, the Largo Town Center Station by Ray King, and the Morgan Boulevard Station by Athena Tacha. All of these stations have either



**Arts in Transit commissions art for installation in transit projects. “Two Trees for Naylor Road” by Robert Cole © 2002.** Photo courtesy of Michael McBride.

large or complex artistic elements in their original plans. This shows that the artists and the designers met to create the layouts for the facility. Few problems were encountered in the construction of the Columbia Heights Station as a result of early artist involvement. Some attribute the success of the Washington Metropolitan Area Transit Authority to the extensive transit art incorporated in the stations.

### Arts in Transit

**David Allen**, Arts in Transit, St. Louis, Missouri

The St. Louis Metro Arts in Transit program started with very little funding. Eventually, they raised enough money and began station projects. Since 1986, over one-hundred and fifty temporary art station projects have been commissioned along the St. Louis system.

**Transit art programs enhance travel experiences of transit users, and add value to transit facilities.**

## More Than Just Trains and Tracks: Station Art

On the Hiawatha transit line in Minneapolis, Minnesota, a unique style of transit art is present in many stations along the line. Different types of interactive art pieces can be found in nearly all the stations. These “machines” display photo images with sound, have moving parts and mostly all need to be wound-up by the rider to enjoy the full effect of the artwork.

Also, colored glass and glass structures are very prominent along the Hiawatha Line. Most of the stations have their own unique paving patterns or symbols that relate to the area where the station is located. The Hiawatha Line is a prime example of how incorporating transit art in stations can improve the quality of the environment for the riders and the surrounding community.

### Kids and Station Art

**Michael Moonbird**, Bad Dog Rediscovered America, Salt Lake City, Utah  
moonlyon@baddogkids.org

Bad Dog Rediscovered America is a non-profit group that works with children to create artwork. Bad Dog’s mantra is “Imagine, Dare, Create!” Through this mindset, the program incorporates children’s artwork with transit art stations.

In 2002, Bad Dog Rediscovered America received rights to design artwork for a Salt Lake City TRAX station. By enlisting the help of students from Guadalupe Elementary School in the Salt Lake City metro area, Bad Dog worked to create designs for these stations. The children would use computer design programs to create images, and then collages were made from these images. After the final version was complete, large sheets of stickers were printed out to later be placed on glass to create a large, translucent mu-

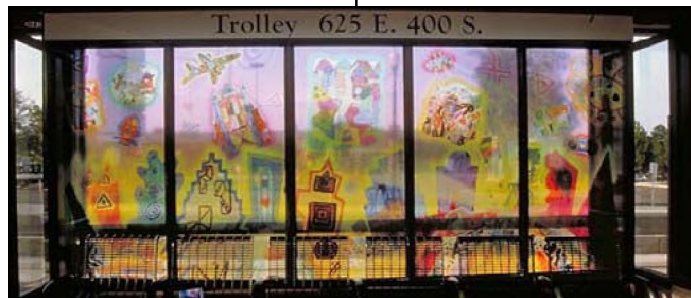
ral. These murals can now be found at TRAX stations along 400 South in Salt Lake City.

Centerpiece murals were not the only creation of Bad Dog for the Salt Lake TRAX system. Mosaic tiling was installed on benches, and in the concrete at several of the new stations. The design team studied the area around the stations before making the mosaic pieces in order to have the artwork correspond to the surrounding area.



An important issue is the question of funding for elaborate art projects for transit systems. Most money for station art comes from local funds that the transit agency provides, and some areas take taxes for transit art. Local arts councils can also be called on for additional funding.

Involving children in the design of transit stations has several benefits. When children are involved, the frequency of station vandalism is drastically reduced. Public transportation is not limited only to adults, and children are riders as well. By having early involvement with transit, these children can understand the importance of ridership and pass it on to others.



**Children were involved in art installations in Salt Lake City’s TRAX stations.**

Photo courtesy of Michael Moonbird.

For years. Though every piece of art is different from station to station, everyone can agree that the success of the station art depends significantly on early artist involvement and serious involvement by the local arts community.

In closing, train and rail stations have undergone a significant change through transit art. Transit art enhances the travel experience of the rider, supports the surrounding community, and most importantly, builds ridership. Transit art has a large impact at a relatively low cost and can last

# Integrating Stations with Neighborhoods

**Soren Simonsen**, *Cooper Roberts Simonsen Architecture, Salt Lake City, Utah*

**Bert Gregory**, *Mithun Architects+Designers+Planners, Seattle, Washington*

**Lon LaClaire**, *City of Vancouver, British Columbia, Canada*

**John Eddy**, *Ove Arup & Partners, San Francisco, California*

In order for a transit system to be embraced and supported by the communities that it serves, it is essential that station areas and transit centers are successfully integrated into neighborhoods. Many communities around the world have found that creating stations that connect to the neighborhoods they serve is a challenging process, but a process that will be highly beneficial to all stakeholders involved.

## Sustainability in Station Design

**Bert Gregory**, *Mithun Architects+Designers+Planners, Seattle, Washington*

bertg@mithun.com

Designing transit and transit neighborhoods with the precepts of sustainability will be essential for the future of our cities, our natural systems, and our children. It can also be an exciting catalyst for creating a vibrant and livable city.

Lloyd Crossing in Portland, Oregon is a project that seeks to integrate building infrastructure and the transit system to improve energy efficiency and economic viability. The designers of Lloyd Crossing have attempted to contribute to the neighborhood identity and make it an enjoyable place to be for all users.

In 2003 the Lloyd District of Portland was slated for a future light rail line. The development commission designated a 35 block area to be developed to revitalize the entire district. Eventually, the Lloyd District would be the intersection point of two light rail lines, one to the airport, and the other a streetcar line connecting downtown Portland. The area had been sluggish in growth for several years, and the development commission wanted development at this light rail hub to

spur new growth.

The designers of the project encountered several challenges while planning for Lloyd Crossing. A major obstacle was the cost of storm water removal. In the Portland area costs for water removal are twice the cost of getting water to the site. With high levels of rainfall every year in the Northwest, this could be a major added expense for a new development to build infrastructure to accommodate storm water runoff. Another issue was

the rapid increase in natural gas costs. This encouraged depending on coal powered plants for energy. Increased coal power dependence would increase the levels of toxic chemicals in the air. The goal of the design group was to tackle

these issues head-on and be creative in making a development entirely sustainable.

In the predevelopment phase of the planning process, the design group created a metric for reducing environmental impact of the project over time. The focus was on solar energy, water consumption and runoff, carbon balance, habitat, and materials. From a social perspective, their goal was to convert the Lloyd District from one dominated by office space to a more 24-hour neighborhood with a mix of uses throughout.

The planners wanted to make the area a “water neutral” area, using no more water than naturally fell as rainwater, and absorbing all runoff within the district. Each corner of each block was designed with a “bioswale” that would allow water to infiltrate quickly into the earth. A 45-year model was created to determine if the economics of creating a “water neutral” area would back such a design. The economics were surprising, and the project was projected to begin making money after 15 years due to reduced runoff disposal.

By following this strategy of retaining runoff rather than paying to remove it from the site, water demands would diminish and the economic value of the water infiltration system would bring added value to the entire neighborhood.

The energy plan for the Lloyd Crossing station area was to shift the primary source of power from coal to

**“In planning transit stations, it is important to remember that you are moving people.”**

## Integrating Stations with Neighborhoods

wind power, a renewable, non-polluting resource. The overall plan for the district will add to the total square footage of buildings, but will reduce consumption of energy in half. A neighborhood resource management agency will be created that will manage the resources of the district on a smaller scale. Over time the money that will be made from more efficiently managing water and energy will be used to pay for urban design and purchase of open space.

The catalyst project at the center of the district will include a wastewater treatment plant, the streetcar station, and large residential towers. The designers hope that the Lloyd Crossing project will serve as a model of sustainable neighborhood development for communities around the country, exhibiting the benefits of efficient and responsible resource management.

### Vancouver: Planning for RAV

**Lon LaClaire.** *City of Vancouver, British Columbia, Canada*

lon\_laclaire@city.vancouver.bc.ca

Due to natural physical barriers, the Vancouver region relies on density to provide for new growth. With water surrounding the city on three sides, the growth of

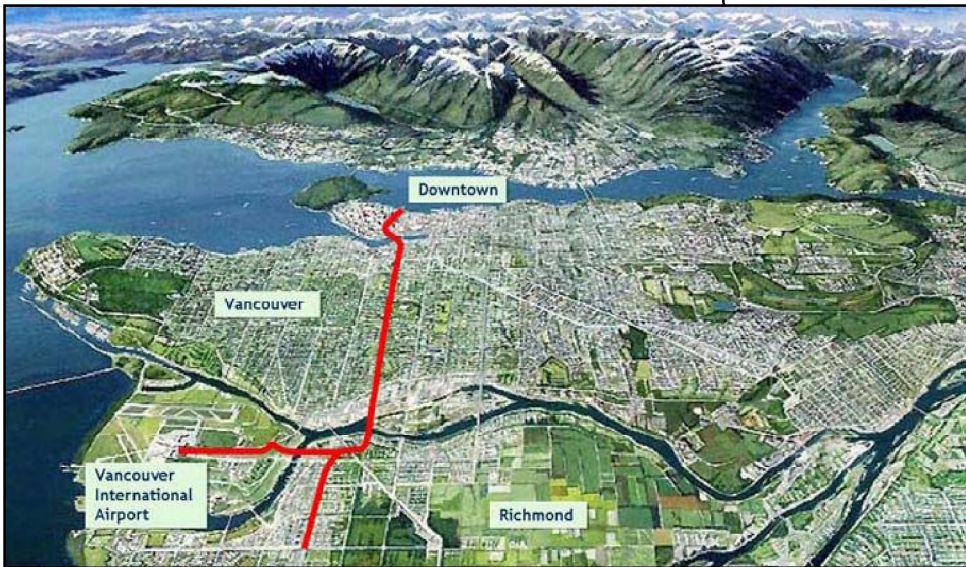
the Vancouver metropolitan area has generally been towards the south and east. A transit system has been created that connects the downtown area with major regional hubs by bus and rail.



The new RAV line in Vancouver will connect the downtown area to the airport to the south via the Richmond Town Center. This line will replace the existing bus rapid transit line that moves through the same corridor. Because of high transit ridership it has become necessary to convert the BRT line to rail in order to achieve targets for regional transportation plans. It is projected that the RAV line will serve 100,000 daily riders by 2010.

Because the system for the RAV line will be automated, the entire line had to be fully grade separated, either underground or elevated. The cost for building the grade separated line will be \$1.9 billion, with \$1.35 billion in public funds.

The RAV line will have nine stations in within the city of Vancouver, with two additional future stations. Of the ten kilometer guideway, there will be nine kilometers of underground rail and one kilometer of elevated rail. The northern terminus will be the Waterfront Station, connecting the line to an existing transportation hub. The station will have connections to the cruise ship facility, a heliport, as well as to a float plane service that connects nearby islands. City planners were able to work with public and private sector groups to agree to move the entrance for the RAV station from an in-street stop to an off-street entrance in order to strengthen the connection to the existing adjoining development.



**Vancouver's new RAV line will connect downtown with the airport and Richmond.** Photo courtesy of Lon LaClaire, City of Vancouver.

The Robson Station, near downtown Vancouver, is close to two



## Integrating Stations with Neighborhoods

important bus and pedestrian streets. It will run underneath an existing pedestrian only street, between underground malls. The city was able to come to an agreement to move the station entrance to a more visible location in order to connect to the underground malls while maintaining a significant on-street presence for transit.

Near the Vancouver City Hall will be the Broadway/City Hall Station. The station proposal would have put the station nearer the city building, but remote from Broadway, the main transit street. An effort was made to move the station closer to the street in order to make the RAV line more accessible and visible. Eventually the planned Millenium Line will intersect the RAV Line at the Broadway/City Hall Station, making the station area much more important as a transportation hub. The city plans to have several entrances to the station as ridership increases.

Cambie Street is a significant north-south route in Vancouver. The city has gone to great lengths to preserve the tree-lined character of the street. The design process at this point has been much longer due to the need to elevate the train for a short distance. Different options for the station area have been submitted in order to allow for stakeholder feedback and make decisions based on community interests.

### Linking Streets and Platforms

**John Eddy**, *Ove Arup & Partners, San Francisco, California*  
bridges@arup.com

In planning transit stations, it is important to remember that you are moving people. It is vital that you understand the routes that people will be taking to and from the station, and that you make clear the entrances and exits to expedite pedestrian flow.

Fulton Street Transit Center in New York City is the connection point of nine transit lines. The designers of the station felt that it was important that the station be a “place” not merely a node, and gave the building a “front” for the benefit of the neighborhood. The large,

bright nature of the glass building makes finding the station easier for users.

Liverpool Street Station in London uses similar strategies to open up the station and bring lots of natural light inside, making wayfinding in and out of the station easily understandable.



**London's Canary Wharf Station.**

Photo courtesy of John Eddy, ARUP.

Station entrances should be highly visible for some distance. Entrances do not need to be the same for the entire system, but should be unique and integrate with the feel of the neighborhoods that they serve. Signage must be easily seen. In London, the Metro signs are posted higher than any other signs on the street. They have no standard height, but are placed high enough that nothing can block the visibility of the transit stops.

The Canary Wharf Station is a unique and highly visible station. It has become a neighborhood landmark, and everyone knows how to direct people to the transit stop. The large glass entrance brings daylight deep into the station, more than 50 feet underground. This not only makes the stop visible from the street, but also draws passengers up from the platform as they get off the train.

In any transit system, it is important that transit planners test the system to see how it will work. Determine what kind of passenger experience it will be, and try to anticipate obstacles that passengers will encounter. Carefully plan wayfinding indicators that will make using the system intuitive for new users.

# Making Streets Fit for Cities and Towns

**Ellen Greenberg**, Freedman, Tung, & Bottomley,  
San Francisco, California

**Norman Garrick**, University of Connecticut, Mansfield,  
Connecticut  
garrick@enr.uconn.edu

Context sensitive design is essential in creating urban character in the nation's cities. Several partners have organized in order to create a recommended practices manual, entitled "Context Sensitive Design for Major Urban Thoroughfares." This project is supported by the Federal Highway Administration (FHWA), the Environmental Protection Agency's (EPA) Office of Economics, Policy, and Innovation, and is sponsored by the Institute of Transportation Engineers (ITE) and the Congress for the New Urbanism (CNU).

The final product of this consortium is chiefly geared toward an engineering audience, especially those who have less experience with design, although it is intended to serve a multi-disciplinary audience. Design guidelines, even if they are not formal standards, can be helpful to people with a background in engineering, since many engineers prefer specific, accepted, and well-researched information.

## 1. Create an Urban Street Network

Key features of a good urban street network include density, connectivity, facilitation of movement with multiple choices, and the creation of a framework for development and for urban activity. Street networks form blocks, which are the fundamental structure of our development and activity patterns.

It can be difficult to have urbanity, depending on the pattern of the network. For instance, Salt Lake City has good connectivity, but also has problems with scale because of its large blocks. This is an issue often lamented by locals who have an interest in improving our urban form.

A comparison between central cities and outlying suburbs illustrates the difference between good and bad networks. It is most often in post-1950 suburbs that we see cul-de-sacs lacking connectivity. In talking about urban networks, today's trend is emphasizing going back to the pattern seen prior to the 1950s, which supports urban behavior and transit use.

## 2. Facilitate Mobility

Streets, by definition, facilitate mobility, but some of the necessary elements are less obvious. The need to create mobility should not supercede the need to create place. Virtually every neighborhood being constructed in America today is designed to allow mobility for cars, but very few consider networks for other modes of transportation.

Davis, California serves as a model that has developed during the last fifty years. Davis has the highest percentage of bike ridership in the nation, and this is primarily due to the fact that they incorporated specific plans in their codes to develop a continuous network for cars, for bikes, for transit, and for pedestrians. If we want citizens to use modes other than private automobiles, we must allow them to do so by creating integrated systems in our cities.

## 3. Recognize That Streets are Places

The issue of streets as places, rather than mere facilitators of mobility is an important one. If streets are designed to serve only one function – to provide mobility – then they will fail in their other uses, such as strolling, shopping, outdoor dining, and so on. Street activities, something as simple as talking with a neighbor, for instance, can be extremely important to a street's sense of place.

## 4. Make Streets Safe for All Users

Urban streets must consider the needs of all users, so the approach taken to freeway safety does not apply on city streets. In particular, appropriate levels of traffic speed must be carefully considered in a mixed-use en-

**If we want citizens to use modes other than private automobiles, we must allow them to do so by creating integrated systems in our cities.**

## Making Streets Fit for Cities and Towns

vironment, especially considering that one's chances of being killed in an auto accident are greatly reduced when speeds are at or below twenty miles per hour. Good design can help encourage a level of activity that provides a sense of safety to users of the space, whereas bad design can exacerbate existing problems.

### How Are We Doing?

The report card on how we are doing nationally with our urban streets is not encouraging. Our failure to create integrated networks has been as detrimental for auto users as for those using other transportation modes. This is one of the few areas in which cars suffer as much as, if not more than, other travelers.

In the area of mobility, we have focused too heavily on facilitating higher speeds and increased capacity for cars. This has presented major mobility and safety problems for pedestrians and cyclists

We are doing most poorly in terms of place-making, especially in distinguishing the different needs of urban and rural places. In both places, auto safety and simplicity have directed street design. We have failed to look at the diversity of urban places, ignoring the unique contexts and what they may require.

Our highest grade, still only receiving a D-, is safety. However, once again this works primarily in favor of the auto user, failing to build speed control into street design and inhibiting pedestrians and cyclists. Part of

the problem in this area is that incomplete networks have created problems for emergency access vehicles that can only be solved by widening streets, thus removing natural barriers to excessive speeding. More than with any of the other elements, the language

about safety is critical. If it is perceived that safety is being compromised, the project will not be able to proceed. Planners need to emphasize that safety is a primary concern, not the primary concern.



It is also important to reflect on how we communicate about streets, whether visually or with language. Cross

sections, maps, and photographs can convey clearly the context in which streets will be used, especially with respect to density and intensity. Words are important as well. Some commonly used words, like arterial and collector, give little indication as to whether they refer to freeways or big roads, whether there will be sidewalks or not, and so on. Words like boulevard, avenue, street (appropriate to urban contexts), expressway, highway, and road (appropriate



**Planners must remember that streets are also places.** Photo courtesy of Norman Garrick.

to rural contexts) convey more information about design.

As planners working with creating streets that fit into a larger urban context, it is important that we consider these four concepts as we make changes in our communities. As streets become more appropriate in the context of the city, our communities will become more safe, more enjoyable, and more livable.

# Developing Partnerships to Sustain Rail and TOD

**Lynn Flint Shaw**, Dallas Area Rapid Transit, Dallas, Texas  
**Brigid Hynes-Cherin**, Federal Transit Administration, Washington, D.C.  
**Marilee Utter**, Citiventure Associates LLC, Denver, Colorado  
**Theresa O'Donnell**, City of Dallas, Texas

In designing and building transit-oriented development (TOD), transit agencies, developers, and government officials must work together to achieve their shared goals while at the same time addressing their individual agendas. As transit systems mature these partnerships must continue to evolve in order to achieve sustainable and successful transit-oriented development.

## Why Partnerships?

**Brigid Hynes-Cherin**, Federal Transit Administration, Washington, D.C.  
brigid.hynes-cherin@fta.dot.gov

Transit plays a critical role in providing communities with the tools and resources to ease traffic congestion, make mobility choices, preserve green space, and pursue wise regional growth strategies. It gives support for community development and for business opportunity. It provides a way for people to reach jobs, education, healthcare, and commercial centers. These are all issues of importance to partners – developers, investment bankers, city/county planning agencies and communities.

Partnerships can come about in three basic ways. First, the transit agency can encourage or initiate joint development on its federally-supported property. Second, the transit agency can encourage new development near its planned or existing stations on property that it does not own. Finally, the transit agency can work with all of its local partners, communities, city officials, and the development community, to plan its transit service in anticipation of future TOD.

The Federal Transit Administration (FTA) is vitally interested in the development of partnerships to sustain rail. FTA promotes partnerships in order to:

- Create better linkages between transportation and land use.
- Allow communities to select wide range of transportation alternatives and choices.
- Promote better use of existing alternatives.
- Leverage funds with other federal and state agencies to meet local goals.

There are several programs in the FTA that can facilitate partnerships between the transit agency and local developers and stakeholders. These programs include Joint Development, Transportation and Community and Systems Preservation Pilot (TCSP), and Transit-Oriented Development.

Joint Development is transit-oriented development that involves the use of federally supported real estate or federal transit financial assistance. Transit and highway funds can be used for projects that provide revenue sources for transit agencies, and can help revitalize communities by supporting public/private developments that are physically and functionally related to transit. TEA-21's flexibility has removed significant barriers to joint development, making it far more attractive to transit agencies.

TEA-21 presumes that the transit operator will recover the reasonable costs of a joint development through rents or other means. FTA has now determined that such revenue is program income, usable for any eligible transit purpose. Value capture is the process by which the community shares in the economic benefits from publicly funded transportation improvements and facilities through increases in real property values (increased tax base), improved access to transit, and improved transportation services.

Decisions like this have provided both transit operators and developers with the financial incentive to invest in transit-oriented joint development projects.

Transportation and Community and Systems Preser-

**In order for project success to be achieved, each partner must fulfill their own commitment to the group.**

## Developing Partnerships to Sustain Rail and TOD

vation Pilot Program (TCSP) came into being under TEA-21. This program consists of research and capital grants that will assist communities as they work to solve interrelated problems involving transportation, land use, environmental protection, public safety, and economic development. This is an extremely important program because it is designed to encourage new thinking in transportation planning. Unfortunately, as with a number of other programs, the funds are earmarked.

Although there is no specific program in support of TOD, FTA has supported research to identify what is a TOD, and how to measure its progress and effectiveness. Our focus has been on how transit investment helps (or hinders) TOD, how TOD may contribute to the eventual success of a transit project, and how the transit system can plan its alignment and station areas to encourage TOD.

FTA officials met with transit agencies, city planners, developers, bankers, and interested parties who felt that TOD is an important issue. They said that it requires close cooperation between all parties to make a successful TOD project. They also said that planning beforehand and financing are two of the critical issues in achieving success in TOD. True partnerships are key to obtaining sustainable, viable transit-oriented developments.

### What Developers Want

**Marilee Utter**, Citiventure Associates LLC, Denver, Colorado  
citiventure@aol.com

Any effective partnership in developing TOD will include a developer. Although no two developers are alike, it is important to understand that they all operate through the same basic process. The more planners understand the development process, the more likely they are to create a positive working relationship with developers.

The first stage, predevelopment, is the riskiest for de-

velopers because of the research and design work that goes into the project without any guarantee that the project will go forward or be profitable. Developers must hire many consultants and designers at this stage, and need financing to do this. The second stage, or development stage, is the initial design of the project and the site review, where all design specifics are decided. Bank financing begins to pay for some of the project, and construction

begins. Finally, the stabilization stage is the point at which a development, if done right, will start to turn a profit. Developers pay the bank back for the construction loan, and often the project is sold, hopefully at a profit. This entire process is long and complicated. It is reasonable for developers to expect most projects to take at least two years from initial design to stabilization.

Because TOD requires intensive investment in predevelopment and can include heavy investment of public dollars, the average timeframe for a developer to recoup a profit can take many years. The longer the time frame, the more potential a developer will lose money on the project. This is the single biggest hurdle to private investment in TODs.

The most complex type of development is multi-use, multi-tenant, public/private partnership projects. When the public involvement process is added to this, a developer can expect at least five years at a minimum to realize a profit, although seven years is more likely. There are not many development companies that can carry the debt required for a TOD for that long. Planners need to make it less risky for developers to become involved in this process, as it is much easier and more profitable for them to work on other types of development.

There are several things that planners and transit agencies can do to encourage developer involvement in TOD projects:

- Spread financial risks between the public and private sectors, making the project a joint development



## Developing Partnerships to Sustain Rail and TOD

venture.

- Transit agencies or cities should assemble the land required for the TOD first and then sell it to the developer. This will provide consistency for the developer, and will reduce the time that they are carrying the debt.
- Transit officials and concerned citizens must “shop” for the right developer for their project. Not all developers are alike and finding the right one is key to a smooth project.
- Given the complexity of TODs, transit officials need to hire professional consultants with experience in this type of project.

As a market, TOD demand is growing quickly. If done right, a TOD project can bring back a sizeable profit to the developer. Many developers are interested in TOD, but are turned off by city policies that make doing TOD much riskier than other projects. If cities and transit agencies are serious about creating TOD along their transit systems, they must understand and meet the needs of interested developers.

### Dallas

Theresa O'Donnell, City of Dallas, Texas

Dallas started with a light rail plan in the early nineties, but with considerable public opposition. Dallas Area Rapid Transit (DART) discovered that the public was ignorant to the concept of TOD. Through aggressive marketing and growing public use of the transit system, the people of Dallas caught on. Today the city cannot keep up with citizen demand for light rail stations with a TOD component. However, citizen demand has not had quite the effect it should truly have. Although the public's interest in TOD in the city of Dallas is great, the city itself has remained largely reactive, depending on the private sector to initiate investment.

Many lessons have been learned regarding TOD since the first tracks were laid. First and foremost, the planners have realized that it was essential to engage the public as early as possible in decisions about new development. This would largely eliminate significant opposition to new projects. Second, the city of Dallas must become more proactive during the planning

and development stage. As the city has come to realize this, they have developed and adopted a comprehensive plan, the first in the city's history. In addition, the city has had substantial success with public workshops to educate the public and forge partnerships with key stakeholders.

The city's comprehensive plan or “New Plan” seeks to write in and zone new TODs as quickly as possible. Five mechanisms are included in the New Plan that will facilitate increased investment and development in TODs.

- A partnership between the city, the transit authority (DART), and various community councils.
- Zoning changes to support TODs.
- Infrastructure to support new development.
- Financing mechanisms to fund improvements in infrastructure.
- Moving quickly to develop a TOD around a new university campus.

Several projects in the Dallas area are currently underway, and there have been some successes already. As the New Plan is implemented, many stakeholders are optimistic that demand for TOD in the Dallas area will only increase. As partnerships in the area continue to strengthen, the ability of these partnerships to create viable TOD will also improve.



**DART was involved in a partnership to develop a new university campus on a greenfield site near a transit station.** Image courtesy of Theresa O'Donnell.

## Improving the Model Community: New Concepts for Columbia

**Susan Hartnett**, City of Portland, Oregon

**Reid Ewing**, National Center for Smart Growth,  
College Park, Maryland  
rewing@rci.rutgers.edu

During the 1960's and 1970's there was a movement in new town planning. Planners felt that if an entire town was planned from the outset it would function more efficiently than other cities, thus avoiding some of the challenges that a town faces when they begin to grow.

Columbia, Maryland is known as one of the best "new towns" in the United States. Planned by developer Jim Rouse, it became an icon for the new planning movement of the time.

In reality, Columbia has had to deal with major challenges over the last few decades, like any other city. One of those challenges is the lack of a downtown. In most instances a downtown is something that gives a city a sense of identity and uniqueness. Another challenge the city faces is the fact that it was built for the automobile. Part of the city's vision today, along with the establishment of a real downtown, was to make their city more walkable.

The current city center of Columbia is structured around a large shopping mall. The plan is to develop as much of the vast mall parking lot as possible. They plan to concentrate the parking in parking structures rather than lots.

The larger challenge the city faces is walkability. It

will take major improvements to go from a traditionally automobile oriented city to a more walkable one. Traditionally, the more walkable a downtown is the more successful it is. There are many important factors to remember for establishing walkability in a community.

One of the most obvious factors is density. For any community to be walkable it must have a higher degree of density than other areas. With a higher density it is easier to develop essential community needs within walking distance of a maximum number of people.

**Part of the city's vision today, along with the establishment of a real downtown, was to make their city more walkable.**

Another factor is the length of city blocks. Keeping blocks to a shorter length allows for more options and choices for pedestrians.

There are also important safety issues that tend to be better addressed with the use of shorter block lengths.

A mix of land uses is vital to the survival of a walkable community. A good example is the growing popularity of residential development above commercial. A good mix allows for better accessibility to people's needs. The mix of uses is also a part of what gives a community its identity.



**As it exists today, Columbia, Maryland's downtown is centered around a completely auto-oriented shopping mall.** Photo courtesy of Reid Ewing.

The narrowing of streets can play a big part in walkability. However, size is not the only factor. In fact, a more important role is that of street design. If a street is designed to allow for better pedestrian safety it may have more success than merely cutting the number of lanes. People are not going to cross streets that do not feel safe or pedestrian friendly. Along with this idea goes the importance of safe street crossings by

making them more visible and installing proper signage.

Parks and other public areas play an important role

## Improving the Model Community: New Concepts for Columbia

in establishing walkability. Having the proper access to these areas is just as important as having them in the first place. Simply making the area more aesthetically pleasing by means of streetscape, sidewalk design and street frontage of buildings adds significantly to walkability. This can also be accomplished through the elimination of 'dead zones' and the use of well planned and placed public gathering spots.

Along with these major elements in walkability are smaller more distinct features that can have a more gradual effect. For instance, the use of proper trees can have a positive effect. This is also important in issues related to safety. By using trees instead of big bushes or shrubs it gives the streets and sidewalks a more open and safer feel.

A method that Columbia is particularly interested in is the minimization of dead space. By focusing the park-

ing needs into parking structures and redeveloping large parking lots you take away some of the eyesores that tend to plague some downtown areas. People in general do not like to walk across large parking lots to get to where they are going; they would just as soon drive across it.



**Planners hope to convert portions of the Columbia shopping mall parking into a walkable, transit-oriented downtown.** Photo courtesy of Reid Ewing.

Even very small details like street furniture, small-scale signage, special pavement types, and public art are all essential to not only give a community a more walkable feel, but also give it a definite sense of identity.

With a large movement toward new urbanism and smart growth, walkability has become an increasingly important attribute for a community. This is particularly important for communities which were developed mainly for an automobile oriented society. Columbia hopes to be an example of the things cities can do to increase walkability, whether it be through large-scale projects or incremental improvements.



# Parking for Transit-Oriented Development

**Zoyd Luce**, Bay Area Rapid Transit District, Oakland, California

**Adam Millard-Ball**, Nelson / Nygaard Consulting Associates, San Francisco, California

**Terry Bellamy**, Arlington County, Virginia

**Kristian Kofoed**, Department of Planning and Development, Seattle, Washington

There are three key factors at play in the amount of parking required for a transit-oriented development (TOD), the first being the density of development. The second is the accessibility of the TOD, and the third is the different types of mixed use within a TOD. It may be true that a transit-oriented development requires less parking than other developments, but there are parking space requirements built into most planning and zoning systems that need to be amended and improved in order to make TOD successful. There are varying approaches and methods to overcome zoning obstacles that require more parking in order to motivate people to get rid of multiple cars and depend more on transit.

## Getting Parking Right for TOD

Adam Millard-Ball, Nelson / Nygaard Consulting Associates, San Francisco, California

amillard-ball@nelsonnygaard.com

Where do parking requirements come from? Parking requirements are billed as a way to “alleviate traffic congestion.” At first it may seem that providing ample parking would alleviate traffic congestion by getting the cars off the streets and into parking spaces. However, what really happens is that there ends up being more cars out on the streets traveling and in turn congesting the roads. In reality, the reason for so much parking is to prevent spillover parking problems.

The actual number of parking spaces required for various uses is often based on data in the ITE (Institute of Transportation Engineers) “Parking Generation”

manual. For a typical land use, 4 spaces are required per 1,000 square feet of floor space. This number was generated with the assumption that there may be that many spaces required at the peak time of the day in a peak shopping season. This number can certainly be reduced in a transit oriented setting, but how much is enough? There are three broad approaches for each local jurisdiction to use to decide how much is enough.



The first approach is to tailor parking requirements to match unique, local demand. One way of doing this is to map out the projected amount of density, transit access, income and household size. By finding out this information you can reduce parking in areas of transit oriented developments in mixed-use areas and neighborhoods adjacent to transit.

The second option is to use incentives or even require parking strategies to reduce vehicle trips and promote smart growth. Some of the ways to make this happen is to constrain supply by setting parking maximums and giving incentives to people who utilize more transit. You can use incentives by issuing residential parking

passes with parking cash-out for those who are not going to use the parking spaces, or by providing citizens with universal transit passes and incorporating more bike/pedestrian

facilities in local improvements. Other ways of being able to constrain building of more parking is to require shared parking. Private parking can be used by businesses during business hours when residents are more likely to be away from home in order to reduce spillover parking problems.

The third approach is to let developers themselves decide the economically optimum level of parking, by

**There are parking space requirements built into most planning and zoning systems that need to be amended and improved in order to make TOD successful.**

## Parking for Transit-Oriented Development

abolishing minimum parking requirements. By abolishing minimum parking requirements you let developers get rid of regulatory barriers that could stop a viable transit-oriented plan from being approved. If you are developing a residential area you need to remember to only sell as many permits as parking spaces to eliminate spillover problems.

### Parking in Arlington, Virginia

Terry Bellamy, Arlington County, Virginia  
tbella@arlingtonva.us

Arlington, Virginia is located in the core of the Washington D.C. region. City planners have worked diligently to meet transportation demand, and have developed a balanced system. The city already has 11 metro stations, 22 metro-buses and 12 ART bus lines. The rider share of people using transit to come into the city is over forty percent. There exists a system of incentives for people to use transit or carpooling, along with a bike/walk benefit that pays \$25 per month.

The city has developed different requirements for TOD, recognizing that developments along the Rosslyn-Ballston Metrorail corridor generate fewer vehicle trips than traditional development. The requirements for TOD parking are usually one space per 580 square feet of commercial space, and 1.125 per residential unit.

The reduced parking plan creates both public and private benefits. Reduced parking ratios can greatly reduce construction and maintenance costs for developers since structured parking can cost between \$15,000 and \$30,000 per space. For an average sized office development the site-plan development parking ratio can save over \$30 per square foot compared with by-right parking requirements.

The newest program that Arlington is starting to incorporate is the car share program. A pilot program was developed along the Rosslyn-Ballston corridor as a public/private partnership. The carshare fleet of vehicles has increased each year of the program, and

most cars are located near Metro stations in the area. In addition, a subsidy was provided for the program, and carshare cars were given special privileges in order to increase the on-street visibility of the program.

The main reason for Arlington's success in transit is the area's small size and density of housing. With so many people and so many jobs it makes it a lot easier to get people on trains and busses instead of using cars. This allows the city to have land uses that are more efficient with less need for parking.

### Putting Parking on a Diet

Kristian Kofoed, Department of Planning and Development,  
Seattle, Washington  
kristian.kofoed@seattle.gov

We all assume that TOD requires less parking than other developments, but it is important to realize that not all TODs are created equal. The Northgate neighborhood of Seattle illustrates how important it is to be specific about how much parking is needed.

The neighborhood is centered around a shopping mall, and is currently transitioning from suburban to urban. Three key components are coming together to transform the Northgate area into a successful TOD. First, it has the second busiest transit center outside of downtown Seattle, with bus headways similar to light rail systems. Second, there is a shared political will to develop the transit center into a TOD. Third, there is the political will to change the existing parking requirements in order to support TOD.

Out of date parking codes can hamper TOD projects when they require that more parking be built than is needed by the development's visitors and residents. Requiring an oversupply of parking spaces is wasteful and expensive. When more parking spaces are built than needed, they sit empty. This oversupply can add significantly to a development's cost, as an underground or structured parking space can cost as much as \$25,000 to \$35,000 to build. In turn, increased development costs lead to less production of housing units

**Reduced parking ratios can greatly reduce construction and maintenance costs for developers since structured parking can cost between \$15,000 and \$30,000 per space.**

## Parking for Transit-Oriented Development

and open space, and often result in unattractive buildings, as parking location becomes the development's driving design force.

A methodology has been developed in order to overcome parking requirements obstacles to TOD. In the methodology, step one is to determine the real parking demand. This can be determined using census data and roughly estimating demand based on vehicle availability per household. The second step is reducing parking in areas where the demand is small, especially near or adjacent to transit. Proximity to frequent transit service validates reduced parking demand, reduced vehicle ownership, and reduced parking requirements. The third step is to give developers the option of reducing parking voluntarily. Developers are asked to demonstrate how their proposal will reduce parking demand in the neighborhood.



In 2005, the city of Seattle adjusted parking requirements for high density neighborhoods based on census data and a transit adjustment reduction to identify the true amount of parking required. After the census data was collected and the parking reductions were

made, projects like Northgate were able to be built adjacent to transit without as much parking. Northgate was originally a huge parking lot that was transformed into a high density development adjacent to

a train transit stop. The project includes an interior square and plazas with public green space, restaurants and other services. By implementing the methodology detailed, the project was able to proceed and create a more walkable, pedestrian friendly development, with reduced need for parking.

## Closing Plenary

Enrique Peñalosa, former mayor, Bogotá, Colombia

### Social and Environmental Sustainability in Cities

Over the next 25 years, the developing world's urban population will increase by almost two billion inhabitants. What happens in the developing world will affect the entire planet. The battle for the environment will be won or lost in the developing world and primarily in its cities. Developing world cities can learn from advanced world cities and avoid their mistakes.

Bogotá, Colombia, is a city of 6.8 million people, with an average per capita income of \$2,000. With 210 inhabitants per hectare, the city is very dense. Bogotá is typical of most developing cities, whether they are in India, China, Africa, etc. It has implemented many changes to address the issues of growth, social justice, and environmental sustainability that any developing city could patterns its own policies after.

The most important and difficult urban challenge is to create a VISION. We cannot design an urban transport system unless we know what kind of a city we want. We cannot know this until we know how we would like to live. What facilities do we want to focus on? When a city has a very limited budget as all developing cities have, they must choose where to spend their money carefully.

The friendlier to cars a city is, the less humane it becomes. The friendlier to cars a city is, the more it excludes the poor and other vulnerable people. The friendlier to cars a city is, fewer resources are left to the needs of the poor: housing, nurseries, schools, libraries, parks, and transportation. If public funds are not devoured by investments in road infrastructure you can avoid other series problems.

Bogotá has focused on building top quality school in-

frastructure in its poorest neighborhoods. By not using funds to expand traffic infrastructure, the city was able to use those funds for open space and schools,

### Public Space

Is quality public pedestrian space a frivolity in a poor underdeveloped city? Or is it important for equality? During work hours, workers feel more or less the same, regardless of income or social status. It is during leisure times that income differences are felt more acutely. High quality pedestrian public space begins at least to compensate for inequality.

Parks are not a luxury, they are as necessary as schools and hospitals, and we have to devote resources to their creations. In public space we meet as equals, regardless of our hierarchies. Social and economic differences are erased. Any great city has to have great public spaces, where rich and poor alike want to spend time.

For 5,000 years, all city streets were only pedestrian. Cars have only become part of the city for the last 80-90 years, but we have come to think they are as essential to the city as anything else. We have become accustomed to living with the side effects of car-oriented cities, even though they are detrimental to the urban lifestyle. There are more than 300,000 children killed by cars every year across the planet. We have come to think of this as normal that children must grow up fearing getting killed.

Once cars arrived they terrorized children away from the street the way wolves kept children away from forests in the Middle Ages. Over the last 80 years we have been making cities much more for cars mobility than for children's happiness. When cars appeared we should have started to build a parallel road network: One for cars and the other exclusively pedestrian.

Why not create all new cities around a pedestrian-and-bicycle-only road network? It would cost nothing, only the forethought to plan ahead. In Bogotá, the El Porvenir Promenade was built to meet the needs of non-auto users. It is a 22 kilometer pedestrian and bike only

**The friendlier to cars a city is,  
the less humane it becomes.**

## Closing Plenary

“highway” through the city. New neighborhoods have begun to spring up around this highway.

Bogotá has also worked to get cars off the sidewalks, and make pedestrians first class citizens again. Sidewalks are not simply for getting from one place to another. They are for walking aimlessly, talking, playing, kissing, and enjoying the city.

To say that a sidewalk is wide enough to carve out parking bays as well as for people to walk by is equivalent to saying that a city’s main plaza or park can be turned into an open-air parking lot, just as long as enough space is left between cars for people to walk by. There is not one constitution in the world today that has made parking a constitutional right, but that’s how we think about it today. For a long time, roads in Bogotá were built without sidewalks, cars only. Now, streets are all planned with sidewalks, bike walks, benches, trees, etc.

Bogotá has also bought a large amount of land around the city for future park space. Currently, they are looking to invest \$9 million in 300 hectares, about the size of New York’s Central Park, on the outskirts of the city. This area will be inside the city in just a few years if growth patterns continue at current rates.

### Transportation

Different from other challenges such as health or education, urban transport does not improve with economic development. Many issues are solved as societies get richer, but transport actually gets worse as more people buy personal cars, and traffic jams become worse. One truth about urban transport is that it does not matter

what is done, traffic jams will become worse unless a radically new model is adopted.

Which is the objective of our transport policy? To provide efficient mobility for all? Or to minimize traffic jams for the higher income groups? Investments in infrastructure for reducing peak-hour traffic jams are regressive. In developing cities, flyovers, elevated highways, and other infrastructure aimed at reducing traffic jams are evidence not of progress, but of inequality. Trying to solve traffic jams building more road infrastructure is like trying to

solve a weight problem by loosening your belt. It may be counterintuitive, but more road infrastructure brings about more traffic jams. This has been proven over and over again. It’s the same thing to have twice the number of cars or to have the same number of cars traveling twice the distance. When we expand the amount of infrastructure, we encourage people to drive more and development to move further from the city’s center.

Governments in the developing world must make an explicit decision: No additional investments are to be

made in order to alleviate peak-hour traffic jams. As we make car use more inconvenient, people will turn away from it. Instead funds will go to public transport.

Bogotá now has a complete bicycle network, encouraging bicycle use, and not discriminating against the poor in infrastructure investment. Bogotá now has 400,000 daily cyclists. Is it democratic that only citizens with a motor-vehicle have the right to safe mobility? Unfortunately this is the case in the developing world today.

**Governments in the developing world must make an explicit decision: No additional investments are to be made in order to alleviate peak-hour traffic jams.**



**Bogota now has an extensive bicycle network.** Photo courtesy of Enrique Penalosa.

## Closing Plenary

More than sidewalks or bicycle paths, Bogotá built them as symbols of equality and respect for human dignity. In Bogotá bicycling to work can save between 13% and 26% of a minimum wage earner's income. New laws require that roads of a certain size must plan for bike paths.

Bogotá's bus rapid transit system, TransMilenio, moves more people per hour than most rail systems in the world. It is economically impossible to serve a whole city transportation demand with rail systems. TransMilenio is moving more passengers per hour/mile than 90% of rail systems at 5% the cost

If a few lanes are given exclusively to public transport, it is possible to structure mass transit systems, with similar speed and capacities as rail systems, at

much lower costs. By 2020 the system will be much expanded. By 2020 85% of the city will be within 500 meters of the trunk system.

While TransMilenio is an improved version of Curitiba's system, it has become a model. Six Colombian cities and many more worldwide are implementing similar systems. More than 240 missions from 42 countries have visited Bogotá to study its transportation systems.

The people of Bogotá have worked for years to increase equality in its transportation investments and to make the city more sustainable. While it still deals with many problems, the city is moving in the right direction to make the city more livable for all its people, not just the wealthy.

**Bogotá's bus rapid transit system, TransMilenio, moves more people per hour than most rail systems in the world.**