The Mormon Grid: Zion in the Desert

By Brenda Case Scheer
University of Utah

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A long time ago, in valley far, far from the rest of civilization, the followers of Moroni, inheritors of the true faith, settled a barren and beautiful plain surrounded by soaring mountains next to a vast, dead, sea. There, in isolation from their detractors, the Saints laid out a beautiful city "foursquare" to the world, a righteous place to invite the gathering of the faithful from all civilization in the last days before the second coming of Christ (Olsen 2002).

The City of the Great Salt Lake in Utah was not the first "central place" established by the Mormons, as they were called. But the Mormons, driven from New York, Missouri, and finally Illinois, at last found appropriate refuge in a desert basin with no outlet to the sea, a place no one wanted.

In 1847, a small band led by Brigham Young came over the mountain pass and found the valley they sought, as described by earlier surveys. Within days they had scouted the land for miles around and selected a place for their new city, laying out first the Temple Square and then another 134 blocks in a 9x15 grid, oriented along the cardinal directions. (Fig. 1) (Hamilton 1995, p. 27) Having already laid out and settled several cities that had to be subsequently abandoned (including Nauvoo, Far West, Kirtland, Adam-ondi), the pioneers, as they are called in Salt Lake, were experienced in town planning. They laid out the plan in rough accordance with the "City of Zion" plan that had been drawn under the direction of the Prophet of the Saints, Joseph Smith, the charismatic founder who was martyred in 1844. (Fig. 2) His death had precipitated the final movement of the Mormons to the West, an expedition that eventually led tens of thousands to emigrate there.

Although Smith had located Zion definitively in Missouri by divine revelation, the Saints were unable to settle there, and their final destination at Salt Lake was a kind of spiritual compromise. The Salt Lake location on the western frontier suited the Mormon's desire for a central place to begin their settlement system, which was to be a conquest of nothing less than the entire continent over time. (Olsen 2002, DePillis 2003, Arrington 1993). The Mormon belief system called explicitly for a "gathering" of the faithful into cities. Unlike other religions, the faithful were called to Zion from around the world, such that believing in the Mormon faith nearly always meant emigration to Utah, until 1890 when the church halted the "gathering" as they downplayed

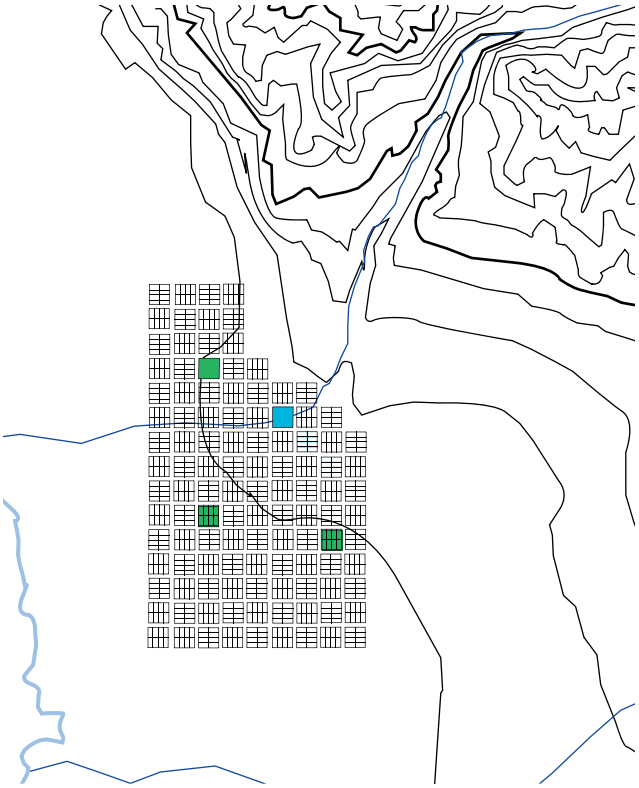


Figure 1. Plat A of the City of Salt Lake 1847

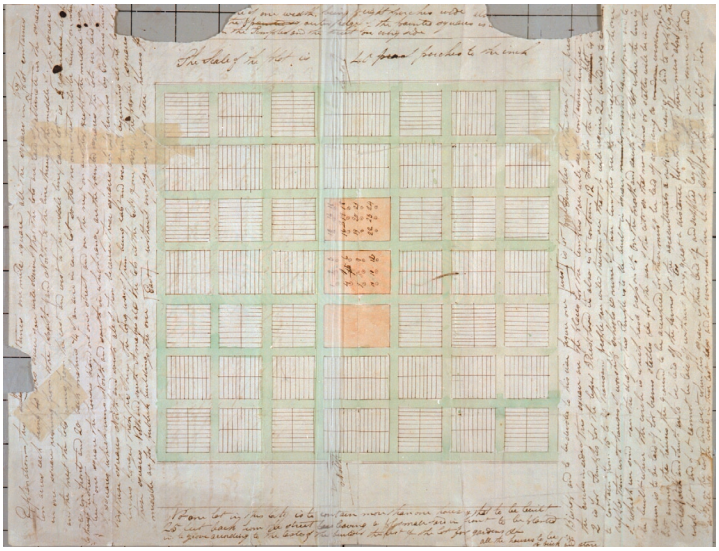


Figure 2. City of Zion Plat 1833

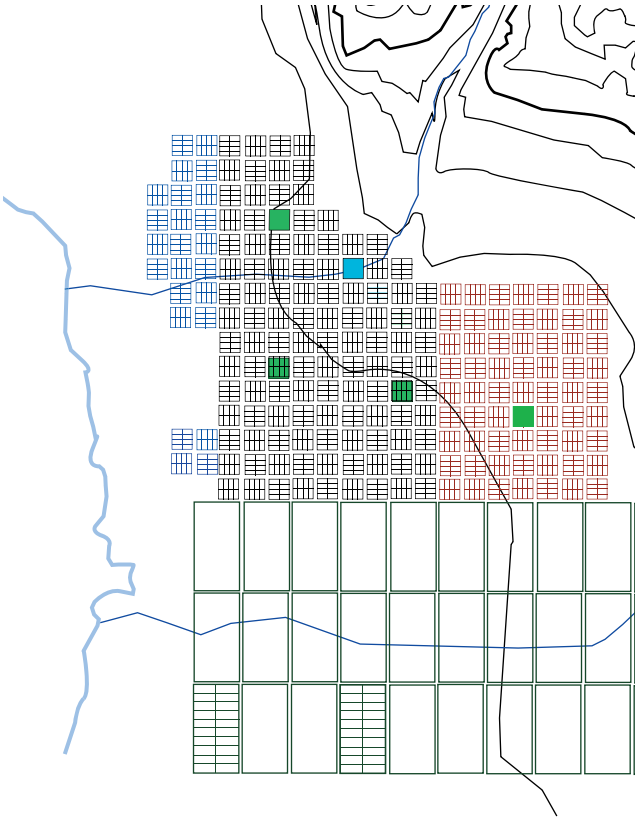
the importance of the second coming (evidently in disappointment that it had not happened quite as quickly as expected.) (DePillis 2003)

The conception of Zion changes slightly over time in its interpretation, but it is always a place for the faithful to gather in advance of the second coming. Both Brigham Young and Joseph Smith apparently envisioned Zion as a vast territory of scattered cities, with a central city to organize it. (Hamilton, 1995, p. 13-14) Salt Lake is that city central city. The Central place of the temple in the initial scheme cannot be overestimated. The centrality and cardinality of the plan demonstrated the clear religious purpose and the words of Smith and Young backed up the plan. All the streets of Salt Lake and even its region, are numbered by name from the southeast corner of Temple Square, making Main Street the clear *axis mundi* of the Mormon kingdom. Even the US government, when it finally surveyed the area of Salt Lake, acquiesced to this religious regulation by making the Main Street the *prime meridian* of the region and South Temple the *base line*. As Stephen Olson points out, this means that the entire intermountain west measures itself from Temple Square. (Olsen 2002, p.89-91)

The laying out of the plan of Salt Lake was done before the US public land survey reached the region and even before the territory was officially US territory (it was initially part of Mexico). By the time federal agents came to lay the land for homesteading, the Mormons had already established their own system of land subdivision not dissimilar to the US system. However, their town lots were larger than allowed under US homesteading law, and they did not customarily have homes on the land they farmed, which was a central requirement of US land claim. (Schuster, 1967,p.62)

The City of Zion conception drove the initial layout of Salt Lake and that initial layout has greatly affected the physical environment of the city since. Modern day planners frequently bemoan the “Mormon Grid”, usually focusing on its unusual dimensions, particularly block size and street width. (see, for example, Forsyth and Goldsmith, 2000) This paper examines the impact that this grid has had on subsequent development patterns up to the present day. The thesis of the paper is that where it has been applied, the grid has mostly had a negative impact in creating an imageable city, with a few notable exceptions. Its initial size and configuration of lots have led to a chaotic pattern of development despite the uniformity of the grid itself. At the same time, recent events have led to a loss of some of the more imageable aspects of the plan that might be called upon to provide a framework for future development of the inner city.

The central area of Salt Lake is laid out in a uniform grid of 660ft x 660 ft blocks (200m x 200m). Streets, including 20 feet set out for sidewalks are 132 ft (40m) wide (8 rods). According to Reps, there is no precedent for this kind of dimensions other than the plat



Fgiure 3. Salt Lake City Plat A,B, C, and the Big Field, c. 1856

of Zion itself (Reps, 1981). Each block was initially subdivided into 8 equal lots, with equality being a central concern of the church. Each lot was 1.25 acres. There has been much speculation on the intentions of such large lot sizes, but it is clear that that self-sufficiency was a motivation: vegetable gardens and fruit trees were expected and largely carried out on these lots in the early years, although unlike an agricultural village, barns and animal holding areas were discouraged in town. As planned, the lots were to contain a single house set back a uniform distance of 20 feet from the street. Very early regulations also called for shade trees to be planted along the frontage of all lots (Schuster, 1967, p. 89). (Figure 3 is based on the Bullock Survey of 1856).

Another remarkable characteristic of the plan is the orientation of the lots. Just as in the original City of Zion plat, the lots were oriented in different directions on every lot, creating a basket weave pattern. The intention was privacy for the inhabitants, so that houses would not face each other across the street, but would face the sideyards of neighbors, presumably planted in garden, providing a green aspect.

Until the late 19th century, Mormons practiced plural marriage, that is, a husband might have several wives, depending primarily on his ability to support several families. The very large lots of the town were not created in order to support a very large, plural family on one lot: most plural wives who had children had their own lot and house. Normally, only childless, "sister" wives would live in the same dwelling. The Plat of Zion anticipated a quasi-communal economic and spiritual life, which polygamy also supported by intertwining families and lessening the influence of the monogamous nuclear family vis a vis the church authority (DePillis 2003). When lots were initially distributed to the early pioneers, the men with large numbers of wives obtained many more lots, an economic advantage that was to redound to certain families for many generations. These lots were not usually abutting, suggesting a certain isolation and independence for plural wives and a peripatetic lifestyle for the husband (Travis, 1995).

After the initial 135 blocks were laid off and distributed, rapid emigration caused two more large plats to be developed in the same pattern and likewise these were rapidly allotted to settlers (Arrington 1993). In addition to the town lots, several fields of outlots were also laid out, as directed in the plat of Zion, to the south and east of the town. The "big field" of outlots consisted of five acre lots, grouped in 20 to make a large block. (Schuster 1967) These were located between 9th south and 21st South in present day Salt Lake City. Their subsequent development is instructive in comparison to the development of Mormon grid sections of the city.

The city grew very rapidly, but most immigrants who arrived were "called" to settle other towns in accordance with the plan to expand across the territory (Travis, 1995).

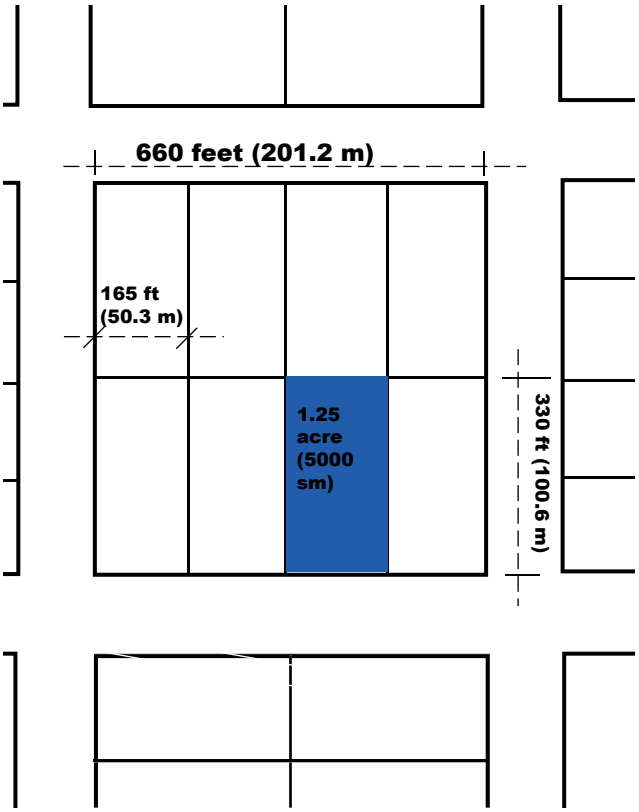


Figure 5. Original Salt Lake "Mormon" block, with dimensions

Brigham Young is said to have founded 360 towns and cities between 1848 and his death in 1877, some as distant as California (Schuster 1967). The population of Salt Lake was thus artificially limited, at least until the 1870's when the church's grip on the city's destiny was weakened by the creeping of civilization west, in the form of the transcontinental railroad, telegraph communication, and rapid settlement. Abundant mineral resources in the region also brought outsiders (Travis, 1995; Arrington, 1993).

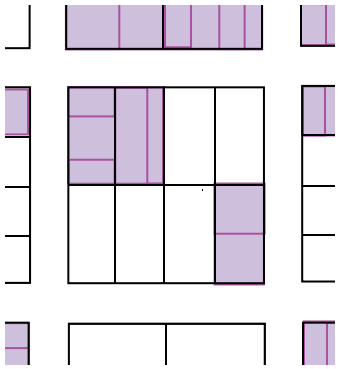
As for the original town plan, although most historians discuss the origins of it, there is almost no research on the subsequent development of it. This study examines three blocks, one in the initial Plat A that became part of downtown, and two in Plat B that have remained low scale in development into the 21st century.

Block 70

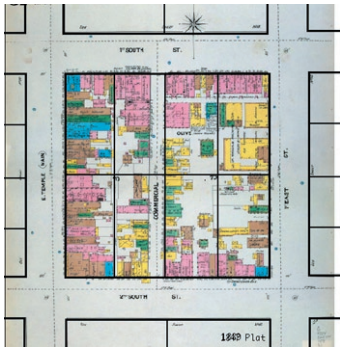
Block 70 is located along Main Street two blocks south of the Temple Square. (Figure 5, map series) Today it is a very central area of downtown, with several high rise buildings. It was a desirable piece of land even in the first years after the settlers arrived. Despite the extremely formal and religious nature of the ideal plan, the pioneers do not appear to have adhered to the plan with much religious rigidity, as befits a struggling community. Even when it was first laid out, three of the eight lots of block 70 were subdivided (Morgan 1850). Brigham Young himself claimed a part of one of the lots. Of the initial 1.25 acre lots that were actually distributed (many were never platted due to severe topography), about 25% were subdivided before being allotted. This was more prevalent closer to the Temple Square.

Main Street developed quickly into a commercial street, despite the idea that commercial enterprise was to be avoided (Quincy, as recorded in Mulder and Mortensen, 1973). Even in 1848, commercial development would seem to be indicated by the subdivision of one of the lots into several narrow lots facing Main. This pattern is repeated throughout the early plat, however, not solely on Main Street.

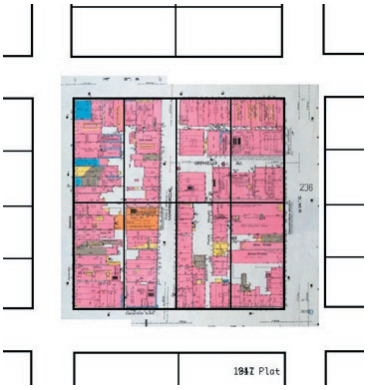
Thus the ideal plan was corrupted from the very beginning and certain adaptations began to take shape here that would be constant in all the large Mormon Blocks, although not as dense as in this block. We see them best in the 1889 Sanborn map, the second fire insurance map series in Salt Lake (the first, in 1884, does not have property lines). By then the ideal lots are still visible as subdivisions of the block, but the subdivision of the two lots facing Main Street is completely in accordance with commercial patterns prevailing in mid-19th century US cities – lots approximately 25 to 50 feet wide and 165 feet deep. (For example commercial lots in Cincinnati in the same era were 25 feet wide and about 180 feet deep, which allowed for a rear yard.) The interior has received a new street, drawn along one side of two interior lots,



1847, original plat is subdivided



1889, more subdivision and new street



1911, full development of block

2003, redevelopment and parking

Figure 5. Block 70, Plat A, 1889-2003

and new buildings have also been constructed here with similar dimensions. A very slight alley has developed between them. The frontage has also developed along all the other sides of the block, with less continuity on State Street, probably because of its greater distance from Main. Thus the block, only a scant 40 years from foundation, is completely unrecognizable as a "plat of Zion" remnant.

By 1911, the block is completely built out and even somewhat redeveloped from 1884, with a new theater and even a "motion picture" house on State Street. Between 1911 and 1949, the eastern half of the block changed little – ominously, though, a few lots were cleared in the center of the block for parking. On the Main Street half, several smaller buildings were cleared to make way for a large department store and a substantial bank building and a few other larger office structures. By 1969, the center of the block was replaced with parking or parking structures and the State Street half of the block was almost completely obliterated, with only two substantial new buildings constructed. Today, the block has added more parking garages, but still has some surface parking and a fast food restaurant. The old theater burned and its faÁade is now being rescued as a false front for yet another parking garage. The pattern established over the years is not so different as in other American downtowns, that is, peripheral development and internal parking.

Block 47 and Block 22

Both of these blocks were platted in 1849, only two years after the founding of the city and one year after the initial plat. They were also planned with eight lots each. Being further distant from the central place, they were slower to develop any substantial density and the transformation of the plat was different than in Block 70.

The "Mormon" blocks outside the immediate area of 21st century downtown are particularly problematic in the present day city structure. Nineteenth century houses sit next to modern highrise hospitals, schools next to apartment blocks. Almost no block front has typological continuity in the whole area of the Plat. The blocks are characterized by multiple land uses, and a wide variety of building types, ages, and sizes. The blocks are undifferentiated in size and the streets are the same thoroughfare-dimensioned width, with no hierarchy. The blocks do not organize into identifiable districts, and the plat has no edges and no monuments within it not even a park or a square for orientation. Part of the reason this research was undertaken was to discover why this was so. The answer lies in the initial plat and its shortcomings as an urban framework, which led to erratic development.

Even in 1847, it should have been clear to Brigham Young and the early pioneers that the large scale of the plat was unworkable for a city destined to be more than an agricultural village of several hundred. The plat dimensions were also carried out in Mormon semi-communal agricultural villages and there it seems to have been a successful adaptation, especially when barns and stables were allowed on town lots. (Nelson, 1952)

But, as we saw in Plat A Block 70, further subdivisions were common even in the first allotments. Furthermore, the pioneers had personal experience of town planning in Nauvoo, where the initial platted lots were smaller, as were the blocks. Even these smaller lots were frequently subdivided in the few years that Nauvoo grew into a thriving city under the Mormons. Young himself had visited England and New York City and understood the nature of towns and cities. Joseph Smith had passed through Cincinnati in the 1830's and apparently was acutely interested in the creation of a great city, to have a population of more than 20,000 – which would have been far larger than any place he had visited except Cincinnati (Bushman,1997 p.9-10) His plat of Zion calls for smaller lots – 1/2 acre as opposed to the 1.25 acres of Salt Lake, although the same generous street dimensions were there, as was the large block size. Smith also calls for great density, suggesting that an average of 16 people might reside on each 1/2 acre lot (Hamilton, 1959, p.18-19). Mormon families today tend to be large, but during the 19th century they were not unusual compared with other rural family sizes. At the time of the Plat of Zion, Smith had not established the doctrine of plural marriage.

The Salt Lake City founders' persistence in the overly generous and unworkable plat dimension more suited to an agricultural village is puzzling under these circumstances. By 1859, a new plat in the city (a distinct district now called the Avenues) was created with blocks and streets half the dimensions of the original blocks. The reasons for this shift in size were not recorded but surely the abandonment of an agricultural village ideal was part of it.

The evolution of Salt Lake "Mormon" blocks has a consistent pattern, clearly demonstrated in the two blocks studied as well as many other blocks examined in the course of this work. This pattern of urban adaptation will be demonstrated in greater detail in the example of Block 47. Block 22 is very similar but retains more historical fabric, so one might say it has not fully transformed by 2003.

It was necessary from the very beginning to adapt the lot configuration, since the agricultural village ideal did not hold for very long. The first adaptation that is nearly ubiquitous is the subdivision of the outside four lots into many smaller lots, defeating the intended opposite orientation for the Mormon plat. (Figure 5, map series) This makes great economic sense, as these smaller lots are far closer to standard city lots of the era, even when developed as single family homes, which they nearly all were. The lots subdivided in this manner have greatly varying widths and sizes and the houses built on them (nearly all houses at first) are built at different times as the lot was divided off. Despite regulation, uniform setbacks

were apparently not observed.

The inner four blocks were also subdivided into narrow, very long lots which were obviously maladaptive as they left much land unusable for intense development in the inside of the block. In subsequent decades, beginning no later than 1898, this problem was handily solved by creating "mews" – short dead-end streets with small houses on either side, all fitting into a single original lot. There are countless examples of these mews, almost all of them surviving into the late 20th century and many still extant.

In the twentieth century, the automobile reared its ugly head and there were a number of surface parking areas created in the center of blocks. Some older houses were destroyed to make way for larger, non-residential uses and apartment blocks, also using the vast interior of the block as parking. Scattered retail strip centers were also built by destroying several houses. Many of the smaller, less well built houses on mews were also destroyed, opening up larger lots for large 20th-century uses.

The variation in lot sizes and house sizes, the long period of initial development, and the irregular configuration resulting from many adaptations left the Mormon Block vulnerable to redevelopment of great range. The result, at the beginning of the 21st century, is a set of blocks without consistent block orientation and no consistent building types, but a rather constant and continuous peripheral development, except in parts of the city where non-residential uses have completely prevailed.

Conclusions

The Mormon grid has proven to be unsuitable for a medium density modern city, unlike smaller grids common in the US. While observers commonly cite the size of the blocks and the width of the streets as troublesome issues, this research has demonstrated that the initial platting also provided a poor framework for future development. To see this more clearly, a comparison can be made to the later subdivisions created out of the "big field". These were platted in much narrower blocks that were not necessarily continous throughout the entire district. Only the initial streets running through the outlots became through streets. Naturally, these through-streets received the most traffic and became more commercial. Small neighborhood business districts grew up at the intersections of these important streets – a natural clustering that has not occurred in the older Mormon blocks. Too, the streets of this part of the city and the houses on them exhibit a typological consistency, even some 100 years after they were platted.

This suggests that an initial framework (lots and blocks) of reasonable size for the prevailing building types is a necessary precursor for orderly growth and

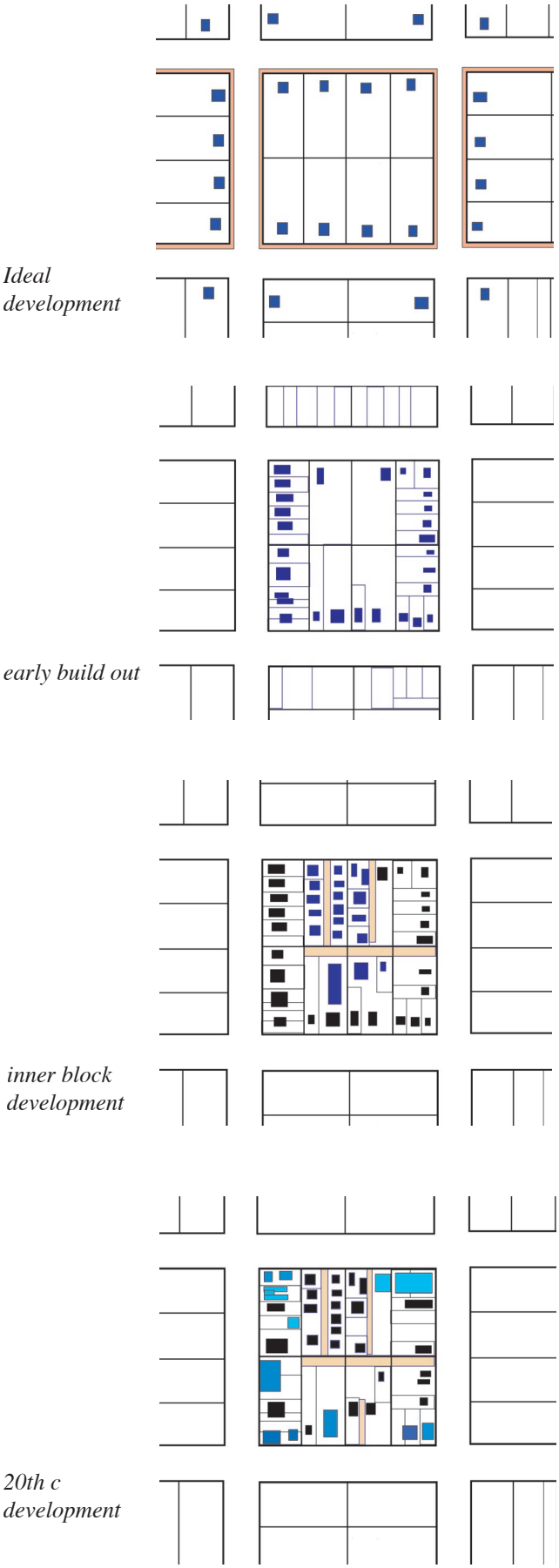


Figure 5: Typical Mormon Block developmet, 1850 - 1969

development. Avoiding odd shaped, metes and bounds lots would argue for not just planning a city, but planning it with very specific common typologies in mind.

On the other hand, the generous size of the blocks has proven more adaptable and flexible in the downtown setting, where newer building types can easily overwhelm the scale of smaller frameworks in other cities. In Salt Lake, even a large basketball arena can easily fit on a city block, with room to spare, and a generous convention center required the closing of only one street-block. Office buildings and shopping malls are accommodated easily, while there is room for surface parking and parking garages in the interior of the block. Over time, in the dense part of downtown, the only troublesome issue that arises is the rather long walk that a 660 foot block dimension gives before one can change direction or cross the street. Mid block walkways have therefore been established and other strategies are planned (Forsyth and Goldsmith, 2000). The wide streets are another discouragement for pedestrians, which they must have also been in pioneer days.

The adaptation of the Mormon grid and block to the automobile has been rather more fortuitous than is usually claimed, even outside of downtown. Again, pedestrians would seem to be discouraged, but there are still many pedestrians strolling under the ubiquitous 19th century shade trees. The streets are wide – far too wide for the traffic they carry. Some have been converted into boulevards and a few into parking islands, both are fortunate adaptations. The blocks themselves have such ample interiors that the periphery need not be burdened with parking lots to support the uses. Unfortunately, commercial patterns in some places dictate a large lot out front despite this condition.

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Plat b is really the problem in contemporary planning. –

a. there is a wide variety of land uses, sizes, etc as a result of the development patterns, no single pattern of land subdivision or land use prevailed by the time zoning was established, it was too late.
b. Typologies are useful as a way to image a district, but here that has been effectively defeated by the evolution of the block patterns and the initial street pattern.
c. the interior of the block, often seen as an issue, has usefully developed in several different patterns, including small mews and parking areas for larger uses. Mews are no longer a development possibility, however, with current laws.
d. The lack of differentiated districts makes the whole seem extensive but difficult to image – most people rely on the coordinate system to get around, rather than landmarks, nodes, paths, etc a la Lynch.
e. Larger streets make every road a thoroughfare, identical to the next, again defeating the creation of reasonable distinct districts.
f. The solution would seem to be creation of districts through the creation of paths, nodes, edges, and some thoughtful preservation of relatively distinct areas.
g. South temple actually is a distint street with a distinct character. As a cross axis to the axis mundi, it was always distinct, and very early on developed the mansions of the wealthy that today give it its character. As a US survey

Addenda

Regarding the downtown block:

1. early abandonment of the lots system on main street gave it a distinct character early in the game (quincy). Also Main street, as the axis mundi of the mormon kingdom, had a special relationship to the land, god and zion and the temple, Ensign Peak, the point of the mountain and the lake.
2. The large scale, except on Main, was actually helpful in subsequent commercial and industrial development, not to mention transit and utilities and finally auto loads of the 20th and 21st centuries.
3. The relationship of the street width to the buiding height is still excessive, but easily mitigated with trees, trolleys, etc, as seen in Main street.

Regarding the future of downtown:

1. The closure of Main Street and the joining of the Temple Square with the block east was a mistake both spiritually and historically, as well as from an urbanistic standpoint. The proper relationship of the temple to the world – the "central place", "the Square" has been badly damaged and made unreadable by this action. The *axis mundi* has been discontinued, especially made unreadable by the little pavilions and the parking structure entrance. It is no wonder that this bad karmic move has caused a world of trouble in the civil/ religious relationships in the city. The best thing to do now would be to undo it and restore the street, just as many cities had to "put back the street" after creating street malls. Failing that, this section must be redesigned to restore the axis to its rightful significance. It must be a "place of going through", not a stopping/ garden/park.

2. Having regained the forty acres initially set forth for the temple, leaders might be persuaded to look at the initial plan of Zion, which called for a series