



## Downtown Parking Study

# Part Nine – Phase 1 Parking Recommendations

### 1. Parking Delivery: - Phase 1 Recommendation

Mandan should consider using a variation of parking delivery **Scenario #2/3** (see **Part Seven**), where the developers either provide the downtown parking or pay an in-lieu-fee. By using this variation of parking delivery the City can optimize its control over the design and layout of parking while obtaining public parking as downtown developments occur. Similarly, the City is then able to potentially fund future parking expansion. The real world application of shared use is optimized since all of the parking becomes public parking and the City is able to allocate it as necessary to suit long and short-term parking needs.

On-street parking opportunities are identified in **Map 13**. This drawing offers the estimated number of parking stalls per block face if the parking stalls were to be striped. On-street parking should be kept as 90 minute duration parking except in designated areas that could be re-designated as all day parking (See **Map 14**). The designated areas where the on-street can be transitioned to all day are areas where overall daily occupancy is very low. The on-street parking stalls would better serve the downtown area as an extra source of long-term and employee parking.

**PARKING  
STUDY  
FOR  
THE CITY OF  
MANDAN**

MANDAN, NORTH DAKOTA

**Parking Consultants  
Architects Engineers**  
RICH  
A ASSOCIATES

LEGEND:

- # BLOCK NUMBER
- STUDY AREA

Date	ISSUED FOR:
06-02-09	DRAFT REPORT
07-15-09	FINAL REPORT

Sheet Title:  
**ON STREET  
PARKING  
OPPORTUNITIES**

File No.	0925
Scale	NTS
Last Rev.	07-15-09
Page	51
MAP NUMBER:	

**MAP 13**





## **Downtown Parking Study**

**Exhibit D** illustrates the suggested parking stall dimensions for Mandan. Some current designs call for 8.5 foot width parking stalls. Rich and Associates typically recommends that parking stalls be 9 feet in width to accommodate a greater variety of vehicle types.

Currently Mandan's zoning calls for 10 foot wide parking stalls. Using 10 feet as a standard stall width for on-street and parking lot layouts will be fine for the time being. However, the City should consider transitioning to a 9 foot stall. By transitioning to a 9 foot stall, the City could gain one parking stall for every nine ten foot stalls, as an example. Transitioning to nine foot parking stalls presents the lowest cost option for the City to gain high value new parking.

Responsibility: City of Mandan.

Recommendation: Decide on a best practice method of parking delivery for Mandan and make the necessary adjustments to the City's zoning and planning documents to reflect revised policies and parking layouts.

### Advantages to Developers:

- a. Less parking required due to shared-use.
- b. Greater land available for building footprint.
- c. No future taxes on property dedicated to parking.
- d. Lowest cost alternative for development.

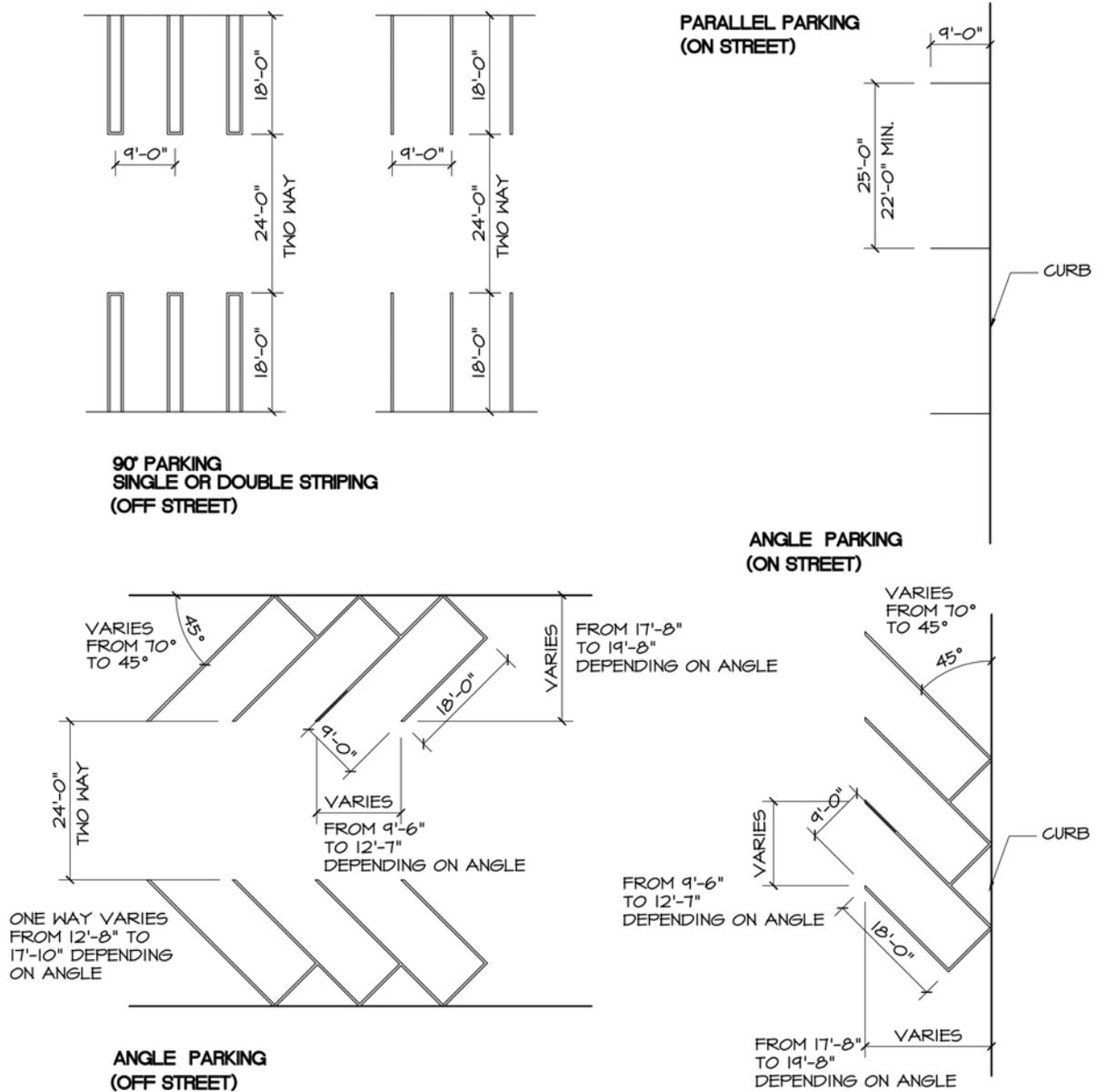
### Advantages to City:

- a. Best method for achieving vision and goals for downtown development style, patterns and density.
- b. Maximum control over parking design and delivery.
- c. Able to achieve greater density through fewer parking lots and optimize community walkability.
- d. Long-term control over parking ensures allocation can be changed to suit needs.
- e. Potential to implement a paid parking system to generate revenue at some future point.
- f. Parking provided with lowest initial cost to City and the use of development fees are avoided.
- g. Land resources are optimized at a highest and best potential and with the greatest efficiency.



### Downtown Parking Study

### Exhibit D: Suggested Parking Layout Dimensions





## **Downtown Parking Study**

### **2. Stripe All On-Street Parking: Phase 1 Recommendation**

All on-street parking spaces should be striped to make enforcement more efficient as well as making it easier for customer/visitors to park without taking more than one space. This will also help customers from being blocked in because vehicles have parked to close.

Responsibility: City.

Recommendation: Stripe all on-street parking spaces. Budget approximately \$15/space.

### **3. Parking Enforcement: Phase 1 Recommendation**

Parking enforcement is an important component of a parking system that is designating on-street parking for customers and visitors. By differentiating the time limits of parking between off and on-street, we are helping to ensure that customers and visitors always have adequate and convenient parking. However, it is necessary to enforce the parking time limits in order for the allocation to work.

Some communities choose part-time officers to help reduce staffing costs and in the case of Mandan, it would be practical to add one or more part-time enforcement officers to aid in ensuring that enforcement is complete and regular.

Description: An enforcement officer should be able to monitor between 600 and 800 parking stalls per shift. Parking enforcement should be carried out by a parking enforcement officer routinely from 9:00 am until 5:00 pm, five days per week. Actual staffing will depend on whether full or part-time enforcement officers are utilized. Officers should be dedicated to parking enforcement duties only during their shift in order to ensure that proper routing and timing or stall observation is consistent throughout the day. Routing is the pattern of the officer enforcement beat or walks. Time limited public parking stalls need to be observed once per duration maximum. Specifically, a two-hour parking needs to be observed by an officer every two hours from 9:00 am until 5:00 pm, five days per week.

Responsibility: Police Department.

Recommendation: Routinely enforce on-street parking limits, and add parking enforcement officers as needed to fulfill hours of posted enforcement within the downtown area.

### **4. Continue working with private businesses to create more shared use parking with existing lots: - Phase 1 Recommendation**

When parking spaces are not shared they often go unused. The City should continue to work with private parking owners to allow for public shared use of private parking where possible.



## **Downtown Parking Study**

Responsibility: City of Mandan.

Recommendation: Seek relationships where private parking can be used for public parking.

### **5. Discourage the development for any new parking lots in the downtown (except for residential): - Phase 1 Recommendation**

A parking system works best when the parking is shared and the City is in control of 50 percent or more of the available parking in the downtown. Minimize surface lots and large breaks between buildings to promote walking in the downtown. People tend to walk further without complaints if the walk is pleasant, enjoyable and engaging. Landscaping, murals, art and decorated store windows tend to create an experience worth walking. Parking areas are important, though large parking lots without landscaping can be viewed as unsightly and unsafe.

Responsibility: City of Mandan.

Recommendation: Implement an In-lieu-fee and discourage surface lot parking development within the Downtown Parking District.

### **6. Slow traffic on Main Street: - Phase 1 Recommendation**

Follow the general design guidelines discussed in Part Eight – Pedestrian/Vehicular Traffic and Circulation.

1. Stripe crosswalks on Main Street.
2. Change the timing of traffic lights along Main Street to slow traffic.
3. Add countdown timers to Main Street cross walk points (timing should be 3.5 to 4.0 seconds per foot that a pedestrian needs to walk to cross the street).
4. Work with the state to bring back parallel parking to the south side of Main Street.

Responsibility: City of Mandan.

Recommendation: General traffic calming and pedestrian enhancements for Main Street. Budget \$4,500 to \$5,000 per intersection for countdown timers and painted crosswalk markings.

### **7. Add bicycle racks to the downtown and encourage bicycle ridership: - Phase 1 Recommendation**

Mandan should consider making the downtown more bicycle friendly and providing adequate and useable bicycle parking. Consider creating a marketing program to promote bicycle use as an alternative to driving. Install new bicycle racks in the downtown and institute a marketing program to promote new locations to park bicycles.



## Downtown Parking Study

Consider creating a special event to promote bicycle ridership in a city wide effort to use alternative modes of transportation, which in turn cuts down on the number of parking spaces needed.

### Guidelines on Bicycle Racks:

- Racks should allow bike frame to make contact at points.
- Should allow for more than one bike per rack.
- Needs to allow for popular “U” shape lock.
- Racks should be placed where they will not impede upon pedestrian traffic, though need to be readily identifiable.
- Should be clearly signed with a bicycle parking sign.



Two examples of bike racks that meet the noted guidelines.

### Marketing Bicycle Ridership

- There is National “Ride Your Bike to Work Day/Month” in May. There are several communities throughout the U.S. that participate. Information can be found through the League of American Bicyclists [www.bikeleague.org](http://www.bikeleague.org).
- Bicycle Friendly Community Campaign ([www.bicyclefriendlycommunity.org](http://www.bicyclefriendlycommunity.org)) awards communities who are bicycle friendly and promote walk-able, safe communities.

“Communities that are bicycle-friendly are seen as places with a high quality of life. This often translates into increased property values, business growth and increased tourism. Bicycle-friendly communities are places where people feel safe and comfortable riding their bikes for fun, fitness, and transportation. With more people bicycling, communities experience reduced traffic demands, improved air quality and greater physical fitness” [www.bicyclefriendlycommunity.org](http://www.bicyclefriendlycommunity.org)

- Source of possible grant funding through Bikes Belong Coalition, <http://bikesbelong.org>
- Pedestrian and Bicycling Information center is a great link that offers advice on funding and marketing bicycling in downtowns. <http://www.bicyclinginfo.org>

Responsibility: City of Mandan.

Recommendation: Add bicycle racks to the downtown and encourage bicycle ridership. Budget \$150 per rack as a base amount.



## **Downtown Parking Study**

### **8. Marketing: - Phase 1 Recommendation**

Marketing is an often-overlooked component of a quality parking system. Internet web pages and other information about Mandan could include advertising for special events and parking. All available information pertaining to the City should include information on parking if possible and maps of the City illustrating parking areas and various destinations. Other marketing initiatives can be aimed at local employers and employees that inform them of changes to the parking system and the importance of keeping on street parking available for customers and visitors. Materials can include direct mailings, brochures, maps, kiosks, on-line web pages or articles in magazines, newspapers, etc.

Information contained in the marketing material should include location, up-coming changes, pricing, regulations, fine payment options and any other information relating to the parking system. An individual's perception of Mandan is greatly enhanced if they know ahead of time where that can park and what it may cost.

A flyer that lists the downtown businesses included with a map of parking in the downtown works well to market both the downtown businesses and the parking system. The flyer is even more beneficial if it includes the durations of parking both on-street and off-street. It is helpful to promote the available free parking in the downtown as well as the locations of long term lots for customers/visitors who plan to spend the entire day downtown. These maps could be placed on kiosks, handed out by businesses, as well as parking enforcement staff.

The maps and flyers should be available on the City website and any downtown organizations. Signs are a useful way to market parking. Catchy phrases that designate long term lots can be used to let customers/visitors know where to park.

Responsibility: City.

Recommendation: Market the downtown parking. Budget \$5,000 annually.

### **9. Special events parking plan: - Phase 1 Recommendation**

Rich and Associates recommend that a plan be developed for parking during special events. This plan should include a remote lot location (lot near the library is preferred, alternates can include the public school, church, City or County owned lot) and if necessary an agreement with the lot owner should be prepared. Some form of shuttle service possibly arranged with the local transit service, or schools, could also be considered for events that draw large crowds.

The need for adequate and quality event parking will enhance visitors' overall downtown experience. The City can also promote parking areas as car-pooling resources that will highlight the community as being conservatively progressive.

Responsibility: City of Mandan.



## **Downtown Parking Study**

Recommendation: Assign/request an agency to oversee a new marketing program. Budget \$5,000 annually.

### **10. Establish rules for snow removal: - Phase 1 Recommendation**

Snow removal during the winter months presents an issue in areas where overnight parking is occurring. The best solution is to continue with the City's current policy of disallowing 24 hour parking and removing snow during the night. Residential parking occurring on the south side on Main Street would be subject to required alternate side parking depending on the date to allow for cleaning of these lots. An example could include parking in designated stalls on even calendar days and in alternate stalls on odd calendar dates.

Responsibility: Public Works.

Recommendation: Designate no overnight parking on-street and identify lots where downtown residents can park overnight. Use alternating sides where necessary in the off-street lots to allow for easier snow removal and sweeping.

### **11. Establish residential permit (hang tag) program: - Phase 1 Recommendation**

Use the existing residential hang-tag permit program to allow downtown residents to park on the south side of Main Street in the free lots for periods greater than 24 hours. Require that resident's park in designated areas of the lots at night to allow for snow removal.

Responsibility: City of Mandan.

Recommendation: Re-orient hang-tags for residents to allow for parking on the south side of Main Street, exempting residents from the 24 hour maximum parking rule.

### **12. Eliminate parking leased stalls: - Phase 1 Recommendation**

Eliminate the leased parking stalls and make all of the parking on the south side of Main Street and select on-street locations (see recommendations map) free all day. Implement alternating side requirement for snow removal and sweeping purposes as discussed above in #10.

Rich and Associates recommends that all public lots north of Main Street have pay by space or multi-space meters installed and a fee of \$1.00 a day be charged for parking. This will give employees parking on street an option to move off the street and still have free parking and allow those who prefer to park closer the option to pay a fee for the convenience. With the recommendations of making Main Street more pedestrian friendly, and with the free parking available on the south side, it should be easier to get employees to cross the street where there is a large surplus of parking.



## **Downtown Parking Study**

It may be necessary to eventually consider raising the price of parking to encourage the use of the available parking south of Main Street. These lots will be available on a first come first serve basis and are available for all users except for applicable snow removal regulations. As previously discussed, the City's existing regulation barring 24 hour parking should continue. The City should make exceptions to the 24 hour parking regulation in instances where an individual has left a vehicle parked to avoid drinking and driving.

Responsibility: City of Mandan.

Recommendation: Implement free parking south of Main, eliminate leased parking system and install pay and display parking meters in all off-street public parking locations north of Main. Initially charge \$1 per pay and increase parking fee in three to five year increments. Budget \$8,000 to \$12,000 per pay and display meter.

### **13. Sign lot just west of Library lot as a RV/truck and trailer lot: - Phase 1 Recommendation**

Use the lot next to the library to park large trucks and recreation vehicles. Also use this as the preferred location for event parking and consider a short-run shuttle system for special events. Sign the lot so it is clear to parkers where they can park.

Responsibility: City of Mandan.

Recommendation: Designate the parking lot west of the library as large vehicle and event parking. Re-paint lot for a combination of large and small vehicles.

## **Part Ten – Phase 2 Parking Recommendations**

### **1. Handheld Ticket Writers: - Phase 2 Recommendation**

Handheld ticket writers should be used in order to track ticket issuance, repeat offenders, shuffling activity and revenue. The handheld technology allows for varying fine amounts to help discourage repeat offenders. By increasing the fine for individuals that accumulate unpaid parking fine, the rate of collection should also be increased. Additionally, improper parking activity is reduced. Handhelds also allow for the issuance of a courtesy ticket to first time offenders. This ticket informs someone that they have parked improperly, directs them to alternate parking locations and thanks them for visiting Mandan.

Parking ticket issuance will be complicated with the implementation of courtesy tickets and graded fines. Handheld ticket writers resolve these issues since the device can keep a database that uses license plate information to track tickets and infractions. The officer uses established routes and inputs information for every parking stall on that route. The information is either the parked vehicle's license plate number or a blank for no vehicle parked. The handheld then recognizes if the vehicle has shuffled, parked overtime and whether there are outstanding tickets by using its internal database.



## **Downtown Parking Study**

Responsibility: City/Police Department.

Recommendation: Use handhelds to aid parking enforcement. Budget up to \$25,000.

### **2. Parking Tickets: - Phase 2 Recommendation**

Parking tickets or fines can aid in collection, provide the community with a customer friendly atmosphere and to discourage improper parking. Among the best practices ticket strategies are the use of graded fines, courtesy tickets and anti-shuffling ordinances.

Graded fines are fines for improper parking practices where the amount of the fine can be adjusted to penalize repeat offenders with a larger fine than an occasional offender. The goals of the graded fine are to discourage parking infractions and to aid in ticket collection before the tickets ends up going into the court system.

A graded fine example for overtime parking:

- 1<sup>st</sup> ticket – Courtesy ticket, no financial penalty.
- 2<sup>nd</sup> ticket - \$20.00, reduced to \$5.00 if paid the same day.
- All subsequent tickets the same \$20.00, reduced to five if paid the same day. The fine stays the same for individuals that pay their fines.
- Accumulation of 5 or more unpaid fines. Six or more tickets are set at \$100.00 each with no reductions.
- Illegal parking infractions (such as at a fire hydrant or in a handicap parking stall remain the same).

The courtesy ticket concept applies to first time parking offenders. The ticket is essentially a written warning or notice that the individual has parked beyond the posted time limit. (Courtesy tickets only apply to overtime parking. Infractions such as illegally parking at fire hydrants and in handicap stalls remain a standard fine.)

The courtesy ticket is usually written to thank the individual for visiting downtown Mandan, indicate to them that they have parked improperly and then offers potential parking locations that would better suit their needs. A map of the parking system on the reverse of the ticket is also helpful. Courtesy tickets are intended to allow leniency for customers and visitors to Mandan. The tickets also work well with changes to the parking system that may temporally confuse parkers.



### Downtown Parking Study

In order to ensure that employees cannot park in the customer/visitor parking areas, it is important to prevent what is commonly called the two-hour shuffle. Since most of the on-street parking in Mandan is 90 minute, it is possible for employees to park on street and then move their vehicle at morning break, lunch and then at afternoon break. By moving periodically to another on street parking stall, they are technically obeying the parking regulations of a 90 minute limit and avoiding a ticket. However this also takes parking away from customers and visitors.

Handheld ticket writers are necessary for this recommendation.

Responsibility: City of Mandan.

Recommendation: Establish a fine structure and implement ordinances to allow for graded fines and anti-shuffling parking regulations

### 3. Parking Signs: - Phase 2 Recommendation

The overall parking system would benefit from a comprehensive vehicle and pedestrian way finding system. Parking areas can be difficult to find if they are located behind buildings, particularly if someone is not familiar with Mandan. A comprehensive vehicular and pedestrian way finding program would address these issues and make Mandan a more customer and visitor oriented community.

Additionally, parking enforcement hinges on the legal ability to issue ticket. In order to ensure that everyone and especially customers and visitors are aware of where they can park and for how long, it is imperative that adequate signs be installed. Generally, Rich and Associates recommends that there be at least one on-street parking sign per block face, two for longer block faces, or as deemed necessary by public works.

It is easier for the parker to distinguish parking signs if they are all the same color and the same type of sign. Mandan uses two colors and two different types of signs that relay to the parker the duration of parking and the hours of enforcement. Once striping of the parking spaces is complete it will no longer be necessary to post angle or parallel only signs.





## Downtown Parking Study

Rich and Associates recommend the following five types of parking wayfinding signs that increases parkers' experience. Often signs are combined in wayfinding sign programs, in this case it is not necessary to use two signs that serve the same purpose.

### Sign types include:

**Introduction:** Introduction parking signage alerts drivers approaching the downtown of the locations of the publicly owned, off-street parking lots. This type of signage is distinctive in color and size, and it can be characterized by unique logos. The signs display the names of the off-street parking lots and the names of their streets. The signs are located on the street, and are mounted on poles of standard heights.

**Directional:** Directional-parking signage is distinct in color, size and logo and directs drivers to off-street parking areas. The signs are mounted on poles at standard heights, on the streets.

**Location:** Parking location signage complements the directional parking signage. The signs have arrows pointing to the off-street lots. The signs are mounted on poles at standard heights and located on-street.

**Identification:** Identification signage is placed at the entry of each parking lot. The name of the parking area is identified and the type of parking available at the parking area is listed on the signage. The identification signage is distinctive in color and size, and it is located on a pole at a lower height.

**Wayfinding:** Wayfinding signs are placed at the points of pedestrian entry/exit to parking lots and structures. The sign is a map illustrating the downtown area that points out the various shops or attractions that can be found. These types of signs are placed at locations easily found by a pedestrian and are intended to help that person orient themselves to the downtown area, such that they can locate their destination and then be able to return to where they parked.

### Sign Examples



Introduction



Direction



Location



Identification



Wayfinding



## Downtown Parking Study

Responsibility: City of Mandan.

Recommendation: Implement new on street parking signs throughout the downtown area. Budget \$50,000

### 4. Alley Improvements: - Phase 2 Recommendation

Consider making the alleys more pedestrian friendly where the alleys serve both vehicles and pedestrians. The use of additional lighting, protected walkways and possibly murals can make an alley inviting and encourage the use of parking lots. Some of the alleys are the pedestrian connection between the parking lots and the businesses, such as the alleys on blocks 6 and 7. The following picture is an example of converting a vehicular alley to a pedestrian alley.



This is an example of taking a vehicular alley and converting it to pedestrian use. This alley does have a sidewalk but is not welcoming. The second picture is a possibility for a more pedestrian friendly walkway. This example is taken from Ferndale, MI.

Responsibility: City of Mandan.

Recommendation: Conduct alley improvements on blocks 6 and 7 to help facilitate pedestrian movement from the parking lots.

### 5. Extend the use of the decorative pillars to Main Street: - Phase 2 Recommendation

Extend the use of the decorative pillars to Main Street to help with wayfinding and marking pedestrian crossing points. This is particularly important along Main Street to aid in traffic calming.

Responsibility: City of Mandan.



## Downtown Parking Study

Recommendation: Use decorative pillars to demarcate pedestrian crossing points and to help traffic calm on Main Street.

### 6. City should seek County participation in financing new parking options: - Phase 2 Recommendation

Due to the parking demand created by the County the City should work jointly with the County to finance new parking options. Currently the County is using on-street parking for employees and does not have enough parking.

Responsibility: City/County.

Recommendation: Work together with the County in financing new parking options.



### 7. Consider other locations outside of downtown are for storage of unused City and County vehicles: - Phase 2 Recommendation

The City and County have lots that are used for storage of vehicles. Consider finding locations outside of the core downtown to locate these vehicles to free up parking for City Hall and the County buildings. The County courts need additional parking and this would help alleviate the shortfall of parking.

Responsibility: City/County.

Recommendation: Look for alternate locations outside the downtown core for the storage of unused City and County vehicles.

## Part Eleven – Phase 3 Parking Recommendations

### 1. On Street parking meters: - Phase 3 Recommendation

Parking is easiest to enforce and operates efficiently when the user also pays a portion of the cost of parking. The introduction of an economic decision making element into the parking process helps to achieve the goals of higher turnover in short-term parking stalls, more parking for customers and visitors and to provide a means of paying for repairs, replacement and upgrades to the parking system.

Consideration should be given to having a long-term goal of charging for parking. Meters help to generate revenue and control the parking. A better option for the City then installing individual space meters is to utilize multi-space meters.



## **Downtown Parking Study**

These meters are more difficult to vandalize, allow for inexpensive price changes and can handle a variety of payment options. Lobbying efforts at the State level will be needed to introduce on-street meters. Consider participation with other North Dakota communities in this effort.

Responsibility: City of Mandan/City Commission.

Recommendation: Participate with lobbying efforts at the State level to repeal on-street meter ban.

***Note: The Parking Steering Committee voted against this recommendation and does not support its implementation.***

### **2. Parking, Repair & Replacement Fund: - Phase 3 Recommendation**

Parking will require substantial investment over the long-term. Likewise, there is the potential to generate revenue to offset costs from the parking system. Pooling parking revenues or some portion of the parking revenues and in-lieu-fees, would allow for the establishment of a parking repair and replacement fund.

Responsibility: City of Mandan.

Recommendation: Establish a parking repair and replacement fund.

# PARKING STUDY FOR THE CITY OF MANDAN

MANDAN, NORTH DAKOTA



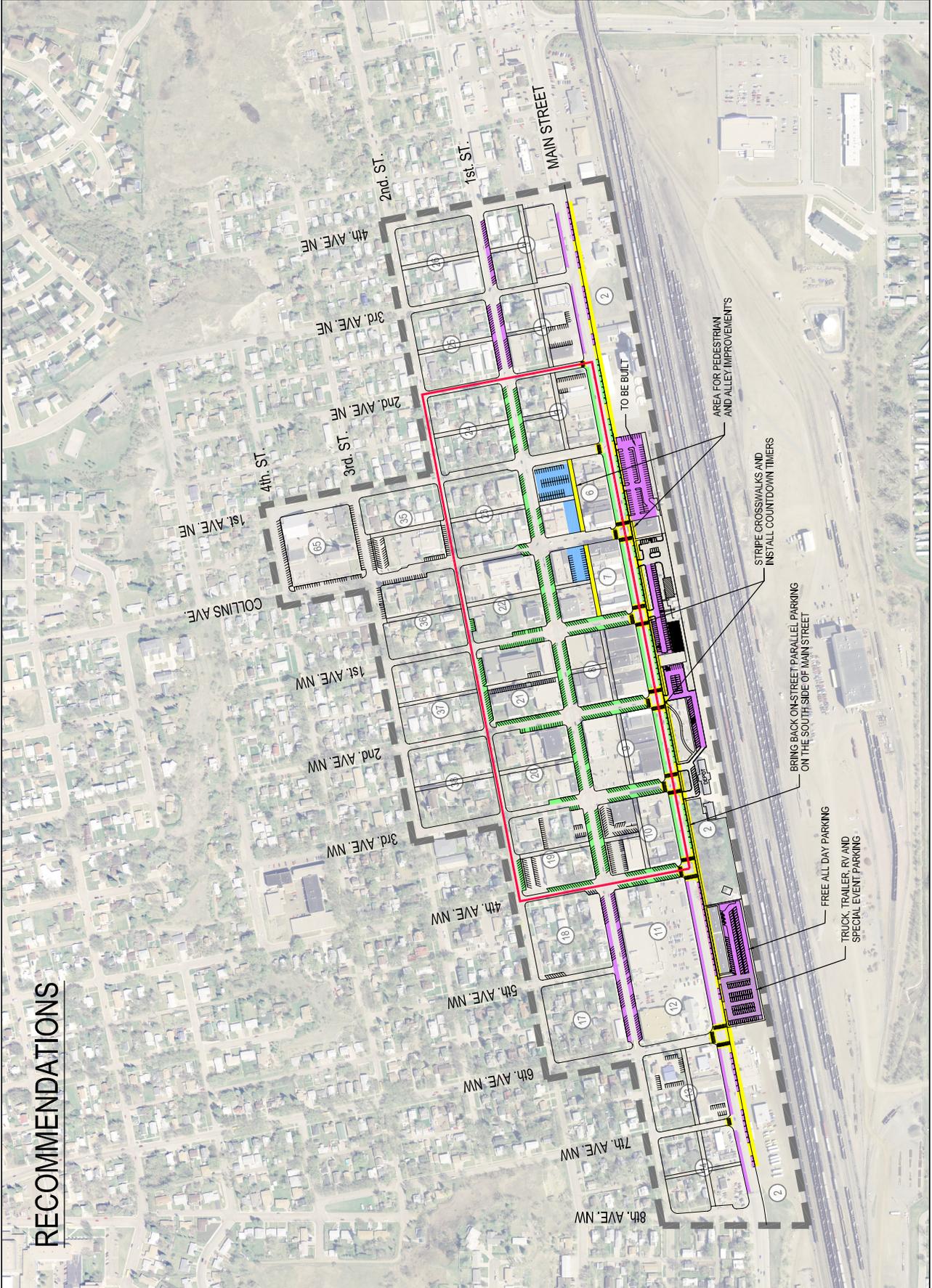
LEGEND:

- # BLOCK NUMBER
- STUDY AREA
- ON-STREET PARKING
- PARKING IN/LEU FEE AREA
- RECOMMENDED PEDESTRIAN & ALLEY IMPROVEMENT AREA
- PAINT STRIPING
- PAY & DISPLAY LOT
- FREE ALL-DAY PARKING

Date	ISSUED FOR:
04-28-09	PRELIM. PRESENTATION
06-22-09	DRAFT REPORT
07-15-09	FINAL REPORT

Sheet Title:	RECOMMENDATIONS
--------------	-----------------

File No.	0925
Scale	NTS
Last Rev.	07-15-09
Page	65
MAP NUMBER:	MAP 14



# RECOMMENDATIONS



## **Downtown Parking Study**

# **Part Twelve – New Parking**

## **Parking Provisions for Current and Future**

Rich and Associates recommends that the City provide sufficient parking to handle customer/visitor and employee parking needs to satisfy the most consistent parking demand level. In the core zone, defined as blocks 7, 8, 9, 10, 19, 20, 21 and 22 (the area bounded by Main Street on the south, 2<sup>nd</sup> Street on the north, Collins Avenue on the east and 4<sup>th</sup> Avenue NW on the west) there is a deficit in the current condition of -182 parking spaces assuming the parking spaces on the redevelopment sites are included in the parking supply. This deficit would increase to -254 spaces if those estimated 72 spaces on the redevelopment sites were not included.

In the future, within a five year time frame and assuming the re-occupancy of vacant space and development on the three City redevelopment sites in the core, the deficit is projected to be -341 spaces. This assumes that the only parking provided by the developer(s) of the redevelopment sites is for the residential component only and is not available for shared use.

Based on this, we reviewed the options for addressing this projected need for additional parking. There are three options; “do nothing”, create new surface lots or build a parking structure. We determined that the “do nothing” option is not feasible because it will not provide parking for the new businesses that have moved into the downtown nor will it provide enough parking in the future for redevelopment and re-occupancy of existing space.

While we investigated surface parking options, there were no sites that the City owned and in the case of private property, the added land costs to the project costs would have, in some cases, doubled the costs per parking space. For the analysis, we reviewed several parking structure sites.

Rich and Associates recommend that the City should proceed with a providing additional parking in the future. There are three options.

### 1. Do Nothing Option

While this is an option for the City, selecting this option will severely limit the development potential in the core downtown in the future and will affect the types of businesses that are currently downtown as well as how the downtown currently functions. This is especially true for the redevelopment sites.

In Mandan, there are differences in parking demand during the daytime and again in the evening. There is also a slightly higher demand in the summer. This creates the potential for “shared use”. Shared use comes into play when there are different land uses in a downtown that have different peak parking needs at different times of the day.



## **Downtown Parking Study**

In order to use “shared use” to its fullest, the majority of the parking supply needs to be City provided public parking. Rich and Associates has established as a best practice that a City should control at least 50 percent of the parking. Because the City controls approximately 53 percent of the parking supply in the downtown, this provides an ability to use shared use.

Even with the recommended policy changes, increased enforcement and reallocation of parking, this will not be sufficient to increase the availability of parking in the downtown when and where it is needed. Therefore, Rich and Associates does not recommend this option.

### 2. Provide New Surface Public Parking

Another option for adding additional spaces to the downtown is to re-design existing surface parking lots to gain more spaces or to develop additional surface parking on vacant or underutilized property. An overreliance on surface parking however, limits opportunities for development and for increasing the commercial and residential density in the downtown core. Also, where surface lots front streets and pedestrian pathways, they create breaks in the streetscape that is detrimental to pedestrian activity and can be a perceptual issue for pedestrians.

Rich and Associates analyzed the potential for re-design of existing City parking areas and determined that there were no opportunities for adding additional parking spaces. With respect to the construction of additional surface parking spaces within the core downtown, we did not identify any potential sites.

One option available here is for the City to look at negotiating deals with private parking owners whose lots, during the day or evenings, have available parking spaces. The City would agree to clean and insure the parking area and then market this parking for customer and visitors if the parking area is within a reasonable walking distance or for employees if the parking area is farther from the core downtown. As part of the marketing program, the City would include these private/public parking areas in their website as part of the public parking supply and take responsibility for signing the parking areas.

### 3. Structured Parking

Rich and Associates identified several potential sites for a parking structure. These sites are located on blocks 2, 6, 8, 9 (see **Map15**). Some of these sites are only large enough for a quarter block parking structure, and most assume that there would be property acquisition.

The following is a review of the various sites.

Block 2: This site is on the south side of Main Street east of Collins Avenue. The parking lot is privately owned. A two module parking structure could be developed on this site. The potential users of this parking structure would be employees and some visitors/customers. The issue with this site is its location with respect to the core area and more importantly, the fact that Main Street acts as a physical barrier for pedestrians.



## **Downtown Parking Study**

A recommendation of this study is to add on-street parking on the south side of Main Street which may act as a traffic calming tool. In any event, we believe that while this site would not require demolition of existing buildings, its location is an issue.

Block 6: While this block is outside the core, it contains a City parking lot on the corner of 1<sup>st</sup> Street and 1<sup>st</sup> Avenue. This quarter block site would be a possible location of a quarter block table top or multi-level parking structure. The target market for this site would be employees.

Block 8: Rich and Associates identified the north half of this block which fronts 1<sup>st</sup> Street and has 1<sup>st</sup> Avenue NW on the east and 2<sup>nd</sup> Avenue NW on the west. This site contains two redevelopment sites and may be targeted for other uses. This site could accommodate a half block multi-level parking structure. There could be ground floor commercial space and there could be other uses built above the parking structure as well. This site is located in the core and would serve new developments as well as re-occupancy of existing vacant space.

Block 9: This block contains the Wells Fargo Bank. Like block 8, this site would accommodate a half block parking structure and is in the core area.

We recommend that the City should develop a parking structure in the future to address parking deficiencies and to promote downtown development. The City needs to be looking forward and begin the process of developing a parking structure to address its long-term parking needs. The process can take from 18 to 24 months in planning and construction. In the stakeholder interviews, Rich and Associates heard about potential redevelopment and re-occupancy in the core downtown. One issue that came up often was available parking. It may be difficult to re-occupy buildings or redevelop properties to more appropriate land uses and density, consistent with the long term goals of the downtown, without new parking.

Many communities are viewing parking as an economic development tool and as an incentive to bring development into the downtown. The key question for Mandan is whether the City should preemptively plan, design and construct a new parking structure before the demand increases, or wait until there is a greater demand for parking that exceeds the parking supply. The benefit of building additional parking ahead of increasing demand for parking is the ability to quickly promote Mandan to potential and desirable commercial interests, who may otherwise locate elsewhere. Specifically, the City could better control a mixture of uses and create a dense walkable downtown, thus allowing more shared use of parking.

Additionally, the ability to provide parking without major disruptions to the City's existing parking system can also be achieved if there is enough parking supply to accommodate demand. This is especially important because both of the potential parking structure sites contain an existing surface parking lot, which would be closed during the construction period.

The cons of building parking ahead of an increase in demand include the outlay of capital based on assumed or projected parking need. If the City were to begin the design process for a new parking structure in the early fall of 2009 for example, with construction to follow in the spring of 2010, a new parking facility could be prepared for use by late 2010/early 2011. The City would need to develop a financing mechanism to pay for the construction and maintenance of the parking structure.

**PARKING STUDY FOR THE CITY OF MANDAN**

MANDAN, NORTH DAKOTA

**Parking Consultants  
Architects Engineers**  
RICH  
A ASSOCIATES

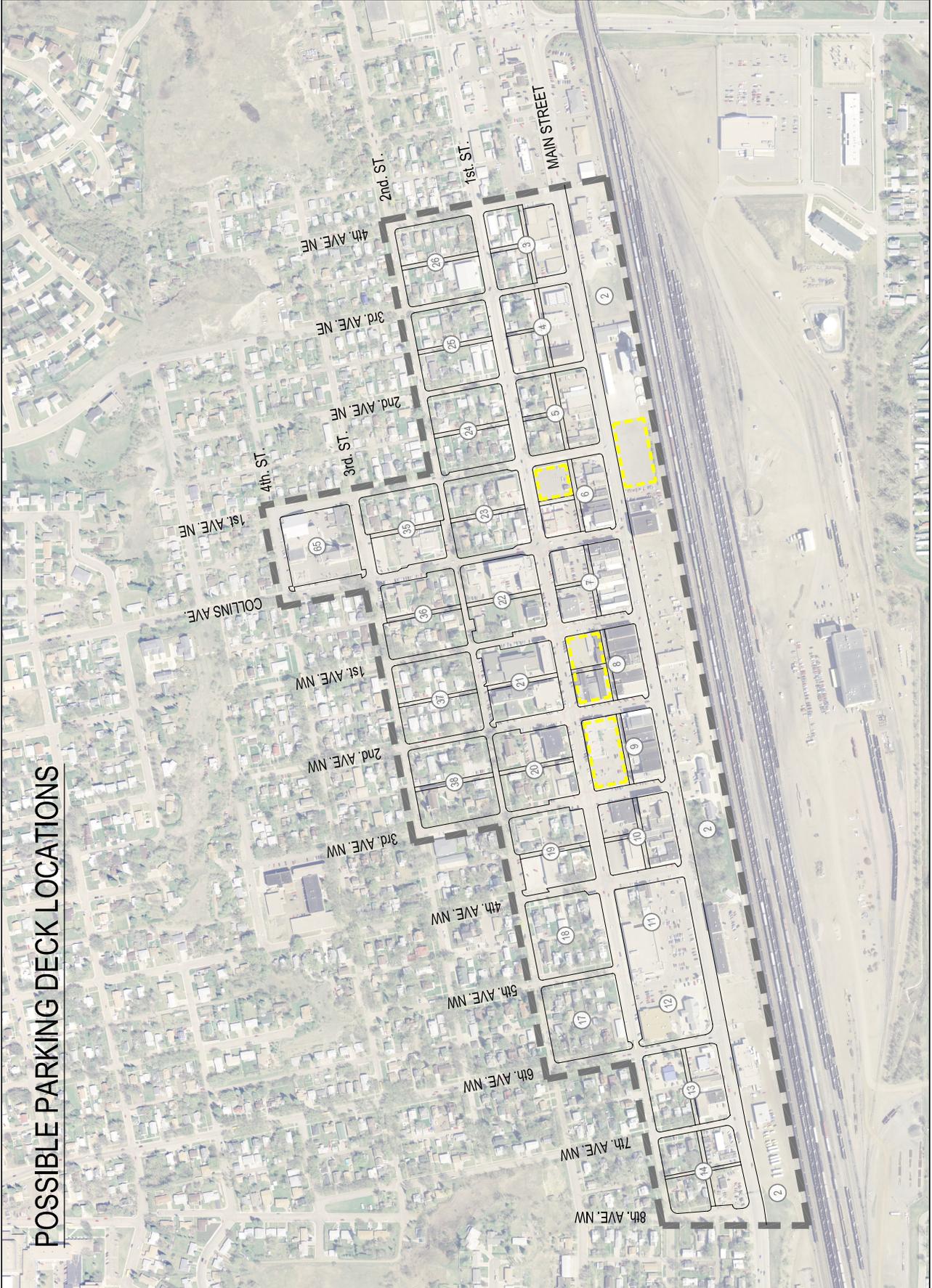
- LEGEND:**
- # BLOCK NUMBER
  - STUDY AREA
  - PARKING DECK

Date	ISSUED FOR:
06-02-09	DRAFT REPORT
07-15-09	FINAL REPORT

**POSSIBLE PARKING DECK LOCATIONS**

File No.	0925
Scale	NTS
Last Rev.	07-15-09
Page	70
MAP Number:	

**MAP 15**



**POSSIBLE PARKING DECK LOCATIONS**



## Downtown Parking Study

### Preliminary Site/Design Analysis

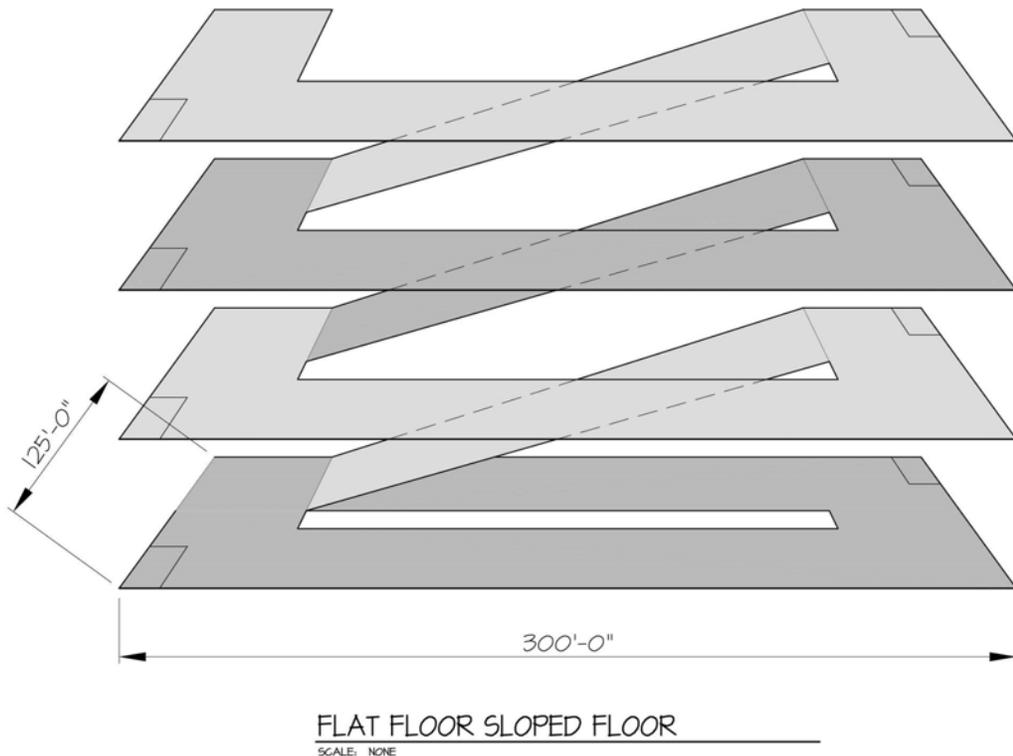
#### Criteria for Site Considerations and Design

Selecting a site for a parking structure on blocks in the core downtown must take into account the potential for development and redevelopment on the blocks surrounding each potential site. The general site considerations are;

#### Flat Floor/Sloped Floor Design

1. To design a flat floor/sloped floor parking structure the optimal site length exclusive of setbacks, is +/- 300 feet and a width of +/- 125 feet for a two module layout (see **Diagram 1**).
2. A flat floor/sloped floor system allows one long dimension elevation to be flat and can maximize occupied space on the ground floor. Only the ends of the building will be flat.
3. In general, the flat floor/sloped floor layout is the most efficient layout as measured by square foot per parking space.

**Diagram 1**



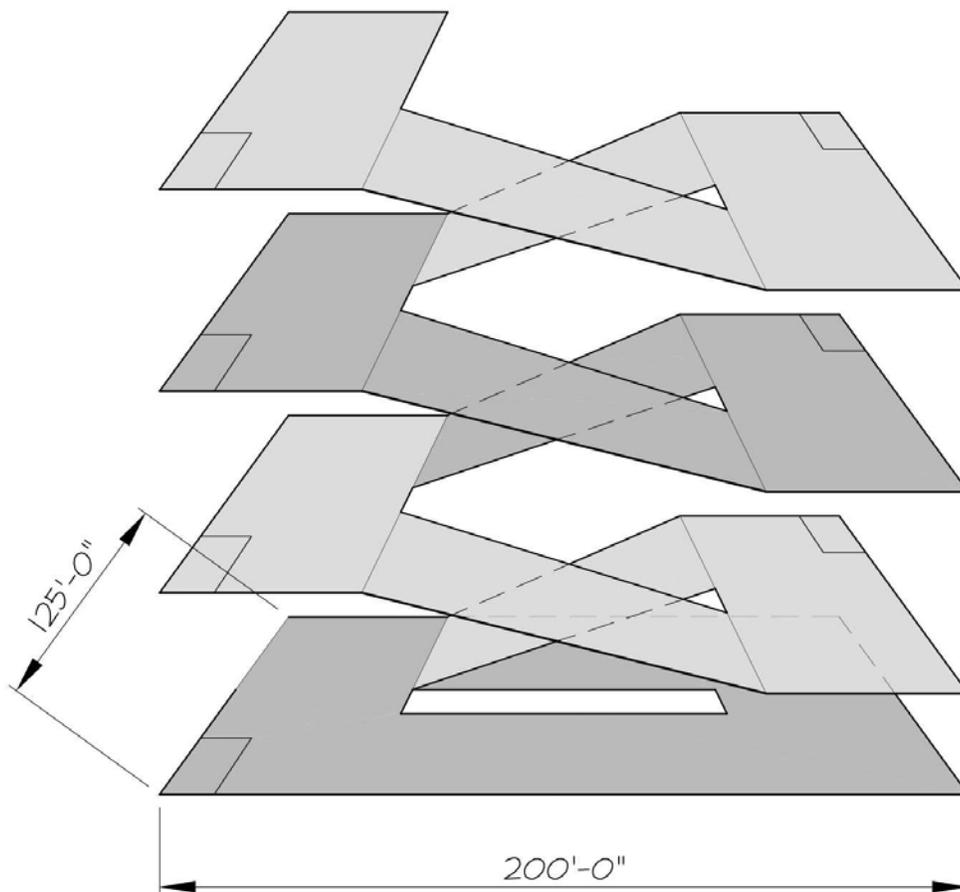


## Downtown Parking Study

### Sloped Floor/Sloped Floor Design

1. To design a sloped floor/sloped floor parking structure, the optimal site length exclusive of setbacks is +/- 200 feet and a width of +/- 125 feet for a two module layout (see **Diagram 2**).
2. A sloped floor/sloped floor parking structure will have no flat facades on the long dimension and only the ends of the building will be flat.
3. In general, the sloped floor/sloped floor layout is an efficient layout as measured by square foot per parking space (generally not as efficient as the flat floor/sloped floor layout though).

**Diagram 2**



**SLOPED FLOOR SLOPED FLOOR**

SCALE: NONE

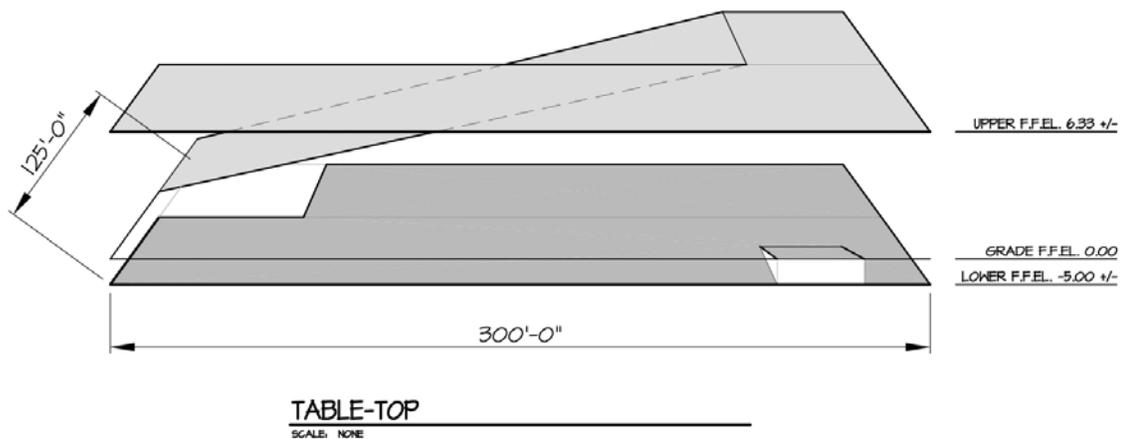


## Downtown Parking Study

### Table Top Parking

1. Another option is a table top parking structure. This structure type generally does not have a ramp from the ground floor to the second floor and is good for sites that are sloping.
2. Though **Diagram 3** shows a table top deck on a half block site, it can be designed for a quarter block site as well.

**Diagram 3**





## **Downtown Parking Study**

### **Other Parking Structure Options**

1. Other site dimensions are possible, especially if they are incorporated with a building, though their efficiency will be less than either the flat floor/sloped floor or the sloped floor/sloped floor layout.
2. Underground parking structures, especially those below a building will generally be less efficient than any other type of parking facility (more square feet per parking space) and the construction costs are at least 150 percent of an above grade parking structure. Additionally, an underground parking structure will have higher operating costs due to mechanical ventilation and additional lighting that needs to run more hours of the day.
3. In general, both an underground and above grade parking structure with another building type above it will require fire suppression (sprinklers), which adds to the overall construction and operating costs.
4. To incorporate ground floor commercial/retail or office there needs to be +/- eight to nine feet of clear head room which translates into a finished floor of +/- 12 feet for the first finished floor. This can be done easiest in a flat floor/sloped floor scheme.

Other site and design criteria are:

- Distance from key intersections (ingress/egress considerations...stacking of vehicles).
- Traffic flow on adjacent streets.
- Distance from key intersections with respect to demand generators. Plan on no more than +/- 350 foot walk from parking to destination.
- How the parking structure will fit into surrounding context...respects Historic Character of downtown, won't overwhelm existing development...maintains "small town" charm.

### **Parking Design Options for Sites Identified**

Rich and Associates prepared initial site analysis on potential parking structures on block 9, which is a full half block, and is applicable to any of the other half block sites. We also prepared an analysis of a typical quarter block site. This analysis was done to determine the feasibility of this smaller site.

For all the sites, traffic flow on the adjacent streets may be an issue with respect to the location of the ingress and egress locations. This impacts the location of the entry and exit portals into the parking structure which need to be placed such that they work with the topography and the sloping of the floors.



### Downtown Parking Study

#### Half Block Site Plan

Rich and Associates identified several blocks where a half block scheme would fit. For Block 9 we prepared a drawing showing how the half block scheme would fit on the site (see drawing below). Block 9 is bounded by 1<sup>st</sup> Street on the north, 2<sup>nd</sup> Avenue NW on the east and 3rd Avenue NW on the west. This scheme shows a flat floor/sloped floor layout with the entry/exit off of either 2<sup>nd</sup> or 3<sup>rd</sup> Avenues. This allows the entire ground floor frontage on the 1st Street side of the parking structure to potentially become occupied space. It also means that the east, west and north facades of the parking structure will be level.

Each typical floor in the half block scheme would generate approximately 105 spaces. With grade and four supported floors there could be as many as 390 spaces (assuming no ground floor occupied space) in the parking structure.



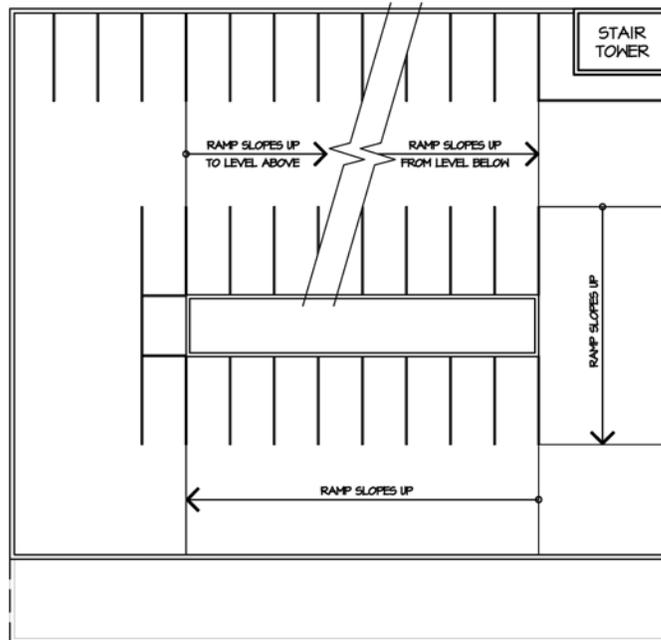


### Downtown Parking Study

#### Quarter Block Site Plan

The quarter block site must be a sloped floor design. We calculated that there would be approximately 30 spaces per level. This would require approximately 5 supported floors to even reach 200 spaces in the parking structure. We have shown the second floor and isometric for this scheme.

Another option for the quarter block site is to do a table top deck. Assuming that there are no existing parking spaces on the site, there could be a net gain of approximately 45 to 50 spaces with this type of design.



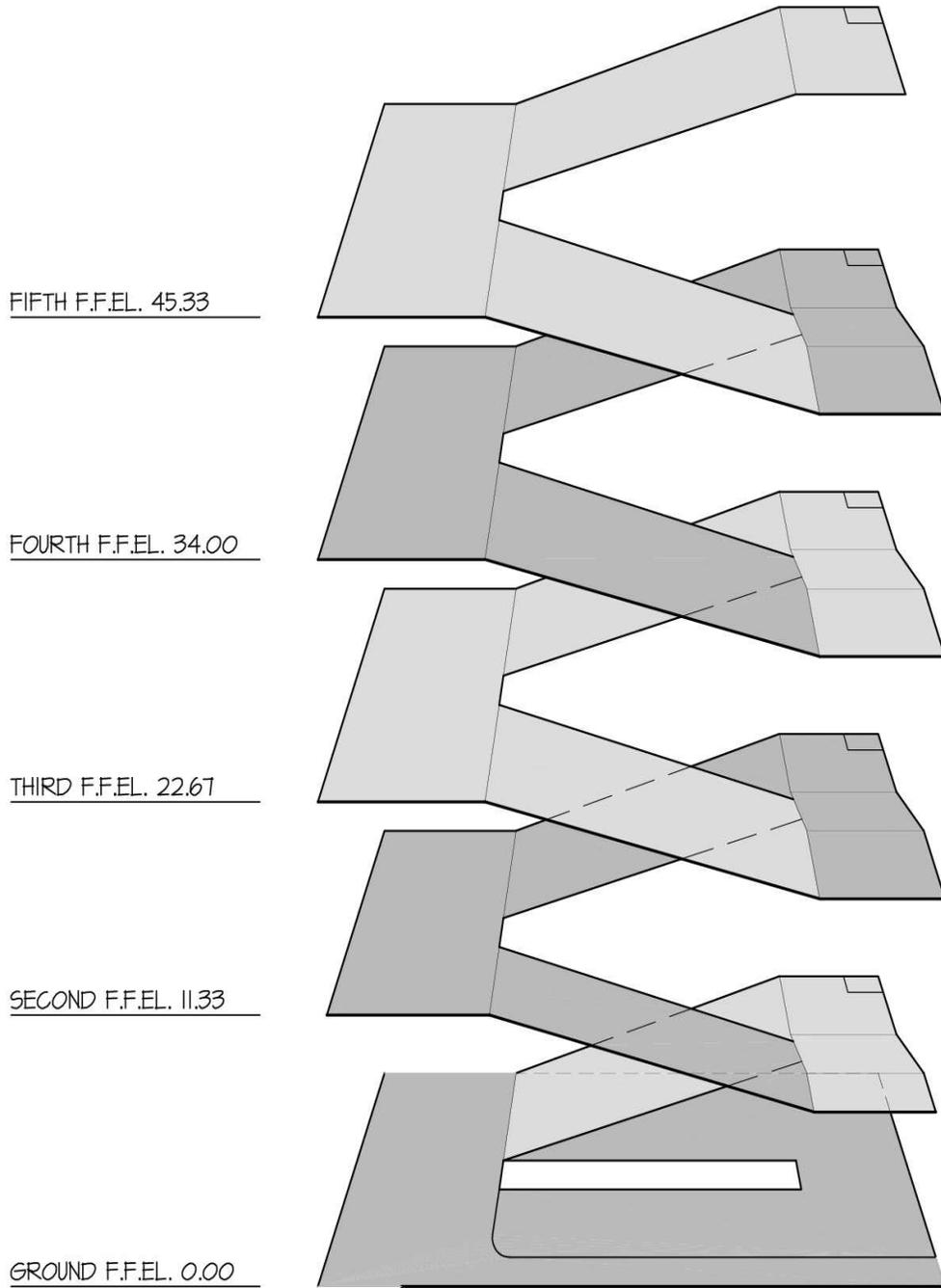
**1/4-BLOCK SECOND LEVEL PLAN**  
SCALE: 1" = 20'-0" 30 SPACES

MANDAN, ND  
DATE: 05-26-04  
FILE No. 0425  
DRAWN BY: RTH





**Downtown Parking Study**



**1/4-BLOCK ISOMETRIC**

SCALE: NONE



## **Downtown Parking Study**

### **Green Design**

Green design elements can be included in the design and construction of a concrete parking structure. In the plan, the amount of pervious land area will be increased by the landscape areas that will be added and that storm water will be held. Another element that meets the green design principles is that we are adding several hundred parking spaces under cover and therefore they are not on surface lots that reflect solar light. Consideration for the top level of the parking structure would be a reflective surface (high albedo level) which do not absorb as much solar radiation.

From a construction standpoint, the use of recycled materials is a principle of green buildings. For the concrete part of the building, which is the majority of a parking structure, there can be concrete add mixtures such as fly ash, silica fume and slag cement. These are all considered post-industrial recycled material. Rebar, which is generally from recycled steel, is also considered recycled material.

Finally, there is the use of regional materials which supports local industries and reduces transportation distances. Generally, the requirement is that a minimum of 20 percent of the materials are manufactured regionally, within 500 miles. This can also assume landscaping and the use of native planting material to screen the parking structure or on the face or roof of the structure which will help reduce solar heat.

### **User Groups and Requirements**

The parking structure should be planned for several user groups: customers/visitors of the downtown, employees and specifically to support reoccupied vacant space and infill development that will occur with in downtown.

Parking structure should be user friendly to include:

#### **Lighting**

- Light levels on parking floors have a minimum of six foot candles.
- Light levels at vertical cores and at entry and exit point have a minimum of 20 foot candles.
- Lighting on the roof level must take into account lighting affects on surrounding buildings.
- Lighting spill over from parking floors must also be considered.
- Type of lighting is not specified.



## **Downtown Parking Study**

### **Safety and Security**

- At a minimum, the parking structure should be wired to accept CCTV if the system is not installed up front.
- The parking structure and site design should take the principles of CPTED (Crime Prevention Through Environmental Design) into account.
- Limit hiding places in parking structure.
- Use glass elevator cabs, shafts and glass enclosed stairways.
- Use landscape that will not conceal a person.
- Appropriate outdoor/indoor lighting, and
- Make way finding easy.

### **Parking Operations**

- It was not determined as part of this study how paid parking would be implemented. There are several options though. One is the traditional cashier where the hourly parker pulls a ticket and pays the cashier on exit. Then there is the cashier less system using individual meters, a pay-by-space system or a pay-on-foot or pay-in-lane machine. The pay-on-lane and pay-on-foot are very expensive to purchase and install and can be complicated to use. The individual parking meter is also expensive to install and then each individual meter must be checked and then coins emptied.
- The best option would be to use a pay by space machine. This would require that every space be numbered and that the parker would go to a machine and enter their stall number and then the amount of time they wished to stay. Payment could be by coin, paper bills, credit card, debit card and smart card.
- Permit or monthly parkers would have a sticker or other way of alerting the enforcement officer that they are a permit parker.

### **Facade and Massing**

- The facade should not look like a typical gray concrete parking structure.
- Glass should be used for the stair and elevator towers consistent with Safety and Security discussed above. Mullions should be provided in the windows to give the parking structure an “office/retail” building look.
- At a minimum, brick or pre cast concrete material resembling stone should be incorporated into the stair and elevator towers.
- Several examples of facades that address these issues are shown below.



**Downtown Parking Study**





## **Downtown Parking Study**

### **Issues Related to Construction Period**

#### **Interim Parking**

Regardless of when the construction period occurs, there will be a temporary loss of parking on any of the blocks that were identified as possible sites. When the City decides to proceed with a parking structure, they will need to address the issues of temporary parking. There should be specific plans developed on using existing parking locations for interim overflow temporary parking. It would be premature to identify a location(s) now. There are several issues to be considered with the temporary parking.

- **Employee Parking:** This group will be the easiest to handle from a logistics and location standpoint. Since an employee is a re-occurring parker, we are not as concerned about temporary signage. The parking locations can be further away than a visitor/customer location. This may require a shuttle. Additionally, the ability to communicate with the employee is easier than with a customer/visitor.
- **Visitor/Customer Parking:** Visitor/customer parking is more difficult to handle. These parkers may not be frequent parkers, thus signage must be used. Where temporary visitor/customer parking will be located is important. If the parking area is remote, a shuttle will have to be incorporated, though we would prefer not to use the shuttle. A marketing plan should also be developed for customers and visitors.

#### **Access During Construction**

Questions may come up regarding alley access and loading/unloading during construction. Depending on the block and site there could be issues with alley access. It may be possible for a portion of an alley to remain open during construction. This will be written into the specifications for the contractors. Temporary signage will be used. Information on construction should be put in the monthly newsletter.

#### **Effects of Construction**

There are several issues with the construction of the parking structure:

Noise: While noise is a factor during construction, it should be written into the specifications specific times when construction may occur i.e. not before 8:00 a.m. and not after 5:00 p.m.

Dust and Dirt: This may also be a problem during construction. The specifications should contain requirements for debris removal, dust mitigation and general maintenance of the site.

Safety: The construction will be fenced in. Storage of materials will be in a fenced-in area.

Damage to Surrounding Buildings: During the normal construction process there is the possibility of vibration damage. Buildings with basements should be photographed both inside and outside walls of all buildings should be included.



## **Downtown Parking Study**

In general, the contractor will be required to present a plan to address these issues. Also, there will be the issue of truck access to the site and lay-down area for materials. The proposed method of construction is pre-cast concrete which will require delivery of the material on flat bed trailers, but generally the material is delivered and then erected the same day.

### **Monthly Newsletter**

Rich and Associates strongly recommends that a newsletter be sent out each month during the design and construction phases. During the design phase, planning for the structure may be highlighted, including the issues discussed above (temporary parking, access and effects from construction). During construction, the newsletter should discuss schedule, closures and general progress of the project.

During construction, you may also want to hold monthly meetings to discuss progress and any specific problems. Area businesses, residents and property owners should be on the mailing list.

### **Project Delivery Methods**

There are three possible project delivery methods for the design and construction of the proposed parking structure; conventional design/bid, design build and construction management. Each delivery method has certain positive and negative aspects.

#### **Conventional Design/Bid**

Conventional design/bid starts with the City retaining a design firm to design the facility. The project would then be bid out after the design process. It is assumed that the City would manage the project or retain a person or firm to fulfill that responsibility.

The positive aspects of the design/bid process are that the City controls the design process during all stages and that the architect/engineer works for the City and not the contractor. However design/bid can involve more time during design, more effort on the part of the City to manage the process, and the costs are not known until the time of bidding.

#### **Design/Build**

Design/build is a process where the City would retain a design firm to prepare a set of bridging documents, including design and specification information. The City would then issue the bridging documents to design/build contractor teams consisting of a general contractor and architect. The successful design build team would complete the working drawings and construction based on a guaranteed maximum price.

The design/build process can potentially result in a lower overall cost for the project and compressed schedule. The City should retain the firm that prepared the bridging documents to review the bids, review the design (so that it conforms to the performance specifications) and review the project during construction.



## Downtown Parking Study

### Alternative Delivery

The City could decide to retain a construction manager at the beginning of the design phase. The role of the construction manager is to provide pre-construction services, cost estimating during the design phase, and value engineering.

Working with the design team and the City, the construction manager would recommend bidding packages, bid the project and then manage the construction process. The construction manager may also provide a guaranteed maximum price for the project similar to a design build project. This would be termed an “at risk” construction management contract.

### Possible Project Schedule

Rich and Associates prepared a preliminary schedule (shown below) for the design and construction of the parking structure. The schedule does not include the time that may be required to present and obtain approvals from the property owners or for finding alternate financing sources.

The next step in the process is to complete a preliminary design for a parking structure based on the work completed in this study. This would require an accurate, up-to-date survey and topography of the site, including any underground utilities. The purpose of this step is to confirm the parking structure footprint, layout and cost estimate. The preliminary design process may take from four to six weeks. During this time, the facade needs to be finalized and then submitted to the City. The review by the City could occur during the Design Development phase.

The next steps are design related and depend on the delivery system. In general, design development would take six weeks and construction documents six more weeks. Bidding would be approximately six weeks and construction (which would vary by site, size, etc.) and would run approximately 50 weeks

### Potential Project Schedule

A.	Complete Schematic Design	Weeks 1 to 4
B.	Complete Design Development	Weeks 5 to 11
C.	Complete Construction Documents	Weeks 12 to 18
D.	Bidding	Weeks 19 to 24
a.	Pre-bid Conference	Week 21
b.	Bids Due	Week 22
E.	Award Of Bid*	Weeks 23 to 24
F.	Construction	Weeks 25 to 75

\* Does not include time for issuance of building permit.



## Downtown Parking Study

### Project and Finance Costs

Rich and Associates prepared Project and Finance Costs for a proposed 300 space parking structure. The “bricks and mortar” construction costs were estimated at \$18,000 per parking space and assumed 2009 dollars. This cost does not take into account the fact that there would be additional costs associated with occupied space in the parking structure if it were included as part of the program and design. Additionally, the costs assume a façade with the use of quarter brick in the panel.

There were two basic scenarios run for the Project and Finance Costs; financing rates based on tax exempt financing using terms that were applicable to July of 2008 (5 percent) and then possible financing rates that have been discussed by financial advisors that Rich and Associates has contacted since the financial crisis began in the Fall of 2008. At the time of this report, it is very difficult to get financing, but if it was available the financial advisors have proposed using a 5.5 percent interest rate with a letter of credit which could add another two percentage points to the borrowing costs for a total interest rate of 7.5 percent.

Neither scenario assumed a revenue bond, but did assume a general obligation bond.

**Figure 1** shows the project and finance costs with June 2008 interest rates and **Figure 2** shows the project and finance costs with possible 2009 interest rates.

The annual debt service with June 2008 interest rates for a 300 space parking structure is estimated to be \$551,000 and with June 2009 interest rates the annual debt service is estimated at \$692,000. Added to this would be the operating costs which would be approximately \$72,000 the first year assuming that there is either no charge for hourly parking. If there is a charge for parking a pay-by-space machine should be used to collect revenue. This would only add about \$8,000 to the operating expenses (not including enforcement).

The following is a detailed explanation of the Project and Finance estimates for **Figures 1** and **2**:

1. **Construction Costs:** The construction costs are based on a pre-cast design. The construction costs did not include an estimate for demolition costs assuming that there were building on the site.
2. **Professional Fees:** These are the design fees and reimbursed expenses. It assumes a conventional design/bid scenario and were estimated at 6 percent of the construction costs.
3. **Insurance:** The City would purchase a builders risk policy but the other insurance would be part of the construction contract.
4. **Legal and Accounting:** The legal and accounting costs for the City for work done on the contracts and then work during the course of construction.
5. **Geo-Tech and Survey:** Fees for a site survey including topography of the site and soil borings and geotechnical report on foundations.
6. **Permits and Inspection Fees:** These are fee not included in the construction cost in line 1.



## **Downtown Parking Study**

7. **Contingency:** Rich and Associates has used a 10% contingency for the design and the construction to cover cost issues.
8. **Land Costs:** There was no land costs estimated at this time.
9. **Equity:** There was no equity assumed.
10. **Project Costs to be Financed:** Project costs represent the construction hard and soft costs.
11. **Finance Term:** The term of the bond is 20 years. A longer amortization schedule is also possible.
12. **Interest Rate:** Based on an un-rated bond issue with no insurance and rates as of the second quarter of 2008 we assumed 5 percent. For the possible 2009 financing rates we assumed 7.5 percent. Both of the rates assumed a general obligation type bond issue.
13. **Term of Construction:** The construction period is estimated at 12 months. This depends on the time of year that the project is started and site availability for lay-down for example.
14. **Interest During Construction:** All bond proceeds are received up front and draws are made on these funds to pay for construction. This represents capitalized interest for the term of construction.
15. **Interest Income:** The bond proceeds are put into an interest bearing account and generates interest income that is used to offset costs.
16. **Legal and Accounting Fees:** These are the legal fees and accounting fees of the bond issuer.
17. **Debt Service Reserve:** No debt service was assumed.
18. **Financing Fees:** These are the points paid to the bond underwriter.
19. **Cost of Issuance:** These are expenses such as printing of offering/official statements.
20. **Total Financing Costs:** Total soft costs for financing
21. **Addition of the Project Costs:** From line 10.
22. **Total Amount of Bonds:** Total of lines 20 and 21.
23. **Debt Service:** The annual principal and interest payment assuming a level payment each year.

## **Charging for Parking**

Generally, cities that have parking systems that are self sufficient and build a parking structure rely upon revenue from several sources. This includes revenue from the actual parking structure being built, revenue from existing parking structures and surface lots in the downtown, and revenue from on-street meters.



## **Downtown Parking Study**

It is difficult if not impossible to build a parking structure in a downtown and have it self amortize without significant equity contributions such as grants, or reserve funds. With a debt service of \$551,000 and operating expenses of \$72,000 the average revenue per space would need to be \$2,077 which translates to \$173 per month. To compare, the monthly market rate for parking in Bismarck is between \$40 and \$50.

This is why pooling other parking revenue sources such as lots and on-street parking is so important. Without parking meters, it is critical that on-street enforcement is consistent so that people who are staying longer are parking in off-street locations and that employees are not parking on-street.



**Downtown Parking Study**

**CITY OF MANDAN  
PROJECT AND FINANCE COSTS WITH JULY 2008 RATES  
300 SPACE PARKING STRUCTURE WITH LAND COSTS NO EQUITY**

<b>1 Construction Cost</b>	<b>300 × \$18,000</b>	<b>\$5,400,000</b>
<b>2 Professional Fees (Architectural/Engineering &amp; Reimbursed)</b>		<b>\$324,000</b>
<b>3 Insurance</b>		<b>\$25,000</b>
<b>4 Legal and Accounting</b>		<b>\$35,000</b>
<b>5 Geotech and Survey</b>		<b>\$35,000</b>
<b>6 Permits and Inspection Fees</b>		<b>\$21,000</b>
<b>7 Contingency</b>		<b>\$540,000</b>
<b>8 Land Costs</b>		<b>\$0</b>
<b>9 Equity</b>		<b>\$0</b>
<b>10 Project Cost to be Financed</b>		<b>\$6,380,000</b>
<hr/>		
<b>11 Financing Term</b>		20 Years
<b>12 Interest Rate</b>		5 %
<b>13 Term of Construction</b>		12 Months
<hr/>		
<b><u>Financing Costs</u></b>		
<b>14 Interest During Construction</b>		<b>\$343,000</b>
<b>15 Interest Income</b>	<b>40% @ 1%</b>	<b>(\$27,000)</b>
<b>16 Legal &amp; Accounting Fees</b>	<b>@ 0.25%</b>	<b>\$17,000</b>
<b>17 Debt Service Reserve</b>		<b>None</b>
<b>18 Financing Fees (Points)</b>	<b>@ 2.00%</b>	<b>\$137,000</b>
<b>19 Cost of Issuance</b>	<b>@ 0.25%</b>	<b>\$17,000</b>
<hr/>		
<b>20 Total Financing Costs</b>		<b>\$487,000</b>
<b>21 + Project Cost to Be Financed</b>		<b><u>\$6,380,000</u></b>
<b>22 Total Amount of Bonds</b>		<b><u>\$6,867,000</u></b>
<b>23 Debt Service</b>		<b><u>\$551,000</u></b>



**Downtown Parking Study**

**CITY OF MANDAN  
PROJECT AND FINANCE COSTS WITH JUNE 2009 FINANCING RATES  
300 SPACE PARKING STRUCTURE WITH LAND COSTS NO EQUITY**

<b>1 Construction Cost</b>	<b>300 × \$18,000</b>	<b>\$5,400,000</b>
<b>2 Professional Fees (Architectural/Engineering &amp; Reimbursed)</b>		<b>\$324,000</b>
<b>3 Insurance</b>		<b>\$25,000</b>
<b>4 Legal and Accounting</b>		<b>\$35,000</b>
<b>5 Geotech and Survey</b>		<b>\$35,000</b>
<b>6 Permits and Inspection Fees</b>		<b>\$21,000</b>
<b>7 Contingency</b>		<b>\$540,000</b>
<b>8 Land Costs</b>		<b>\$0</b>
<b>9 Equity</b>		<b>\$0</b>

<b>10 Project Cost to be Financed</b>	<b>\$6,380,000</b>
---------------------------------------	--------------------

<b>11 Financing Term</b>	20 Years
<b>12 Interest Rate</b>	7.5 %
<b>13 Term of Construction</b>	12 Months

**Financing Costs**

<b>14 Interest During Construction</b>		<b>\$529,000</b>
<b>15 Interest Income</b>	<b>40% @ 1%</b>	<b>(\$28,000)</b>
<b>16 Legal &amp; Accounting Fees</b>	<b>@ 0.25%</b>	<b>\$18,000</b>
<b>17 Debt Service Reserve</b>		<b>None</b>
<b>18 Financing Fees (Points)</b>	<b>@ 2.00%</b>	<b>\$141,000</b>
<b>19 Cost of Issuance</b>	<b>@ 0.25%</b>	<b>\$18,000</b>

<b>20</b>	<b>Total Financing Costs</b>	<b>\$678,000</b>
<b>21</b>	<b>+ Project Cost to Be Financed</b>	<b>\$6,380,000</b>
<b>22</b>	<b>Total Amount of Bonds</b>	<b>\$7,058,000</b>
<b>23</b>	<b>Debt Service</b>	<b>\$692,000</b>