7.0 PARKING MANAGEMENT STRUCTURE – CITY SURVEY

A survey of five other cities in the region was conducted. The purpose of the survey was to identify parking management structures, as well as information on angle parking, including: if angle parking is being used in the central business districts; how long angle parking has been in place; and whether there have been any identified safety issues related to angle parking.

The five cities that were contacted are:

- Fargo, North Dakota
- Bismarck, North Dakota
- Minot, North Dakota
- Duluth, Minnesota
- St. Cloud Minnesota

Four of the five cities contacted have a parking commission/authority to manage the public parking spaces. The parking commission/authority in Fargo and Duluth manage both the on-street and the off-street parking spaces. In Bismarck and Minot the parking authority only manages the off-street parking with the on-street parking being managed by city traffic/transportation departments. St. Cloud has both on-street and off-street public parking managed by the city's Public Works Department.

On-street parking enforcement in all cities is through the police department. In three of the cities the revenue from on-street parking fines goes directly to the general city fund and in one city the revenues are split between the district courts and the general city fund, information was not readily available for the other city.

Off-street enforcement is the responsibility of the parking commission/authority where available. Where there is no parking commission/authority in place, off-street public parking is also enforced through the city's police department. In four of the cities the revenues from the off-street parking went directly to the general city fund.

Three of the cities have one standard rate for parking fines, ranging from $15 - $20 per ticket depending on the city; two of the cities have differential fines for repeated parking offences. One city fines $5 for the first five tickets in a calendar year and $10 per ticket for more than five offences in a calendar year. Another city has the first offence at $10, second at $20, up to the fifth and more at $50, with offences held against a person for six months.

Four of the cities use differential fees for monthly parking; the fees vary depending on location and type of parking spot. Table 13 illustrates the differential parking rates for the cities contacted.

Table 13: Differential Parking Fees

City	Type of Parking Spot	Cost
Bismarck	Parking Structure	$40/month
	Rooftop Parking	$25/month
Fargo	Surface Lot	$45/month
	Parking Structure	$55/month
	Surface Lot that the city wants to keep open for casual use	$60/month
Minot	Ungated Surface Lot	$25/month
	Gates Surface Lot	$37.50/month
	Parking Garage – Lower Level	$35/month
	Parking Garage – Main Level	$45/month
St. Cloud	Surface Lots	$113/quarter ($35/month)
	Parking Ramps	$160/quarter ($50/month)

Three of the cities have parking promotional programs for their downtown area, including business validation programs, and extended time zones in areas with lower utilization. Four of the cities have wayfinding programs implemented with parking maps on the city websites.

All five cities have drive-in angle parking in their downtown areas. St. Cloud has had angle parking as far back as staff could recall and has not experienced any differential safety issues between angle parking and parallel parking. The only two safety issues noted during the survey are:

1. With drive-in angle parking there are sight restrictions when backing out into traffic (especially if parked beside a larger vehicle)

2. The larger vehicles (full size extended trucks/vans) can be too long for the angle parking stalls and can stick out into traffic.

Fargo, having implemented angle parking only five years ago, believes angle parking has had an overall positive public response, and has also reduced lane widths, in turn reducing speeds and safety issues.

8.0 PARKING STRATEGIES

8.1 Angle Parking

Expanding on the use of angle parking in the downtown was one of the mandates for this study. At the time of the study inception, angle parking was currently located on 4th Street, south of Division Avenue. In May 2006 additional angle parking was implemented on 1st Avenue east of 3rd Street. Angle parking has been unofficially occurring on North 5th Street north of 2nd Avenue in front of Lyons Auto Supply.

The City has initiated discussions on angle parking in the past, however, agreements between the North Dakota Department of Transportation (NDDOT) and the City concerning the use of federal funds for downtown street works precluded implementing angle parking. Following the flood of 1997, funding was provided to the City to resurface most of the downtown streets. An updated agreement (Cost Participation, Construction, and Maintenance Agreement) between the City and NDDOT noted that diagonal parking is prohibited.

NDDOT staff was represented on the study Steering Committee. NDDOT did agree during this study process that NDDOT was willing to discuss possibly amending the agreement to introduce some angle parking in the downtown, at least on a trail basis, to allow for an assessment of potential impacts. The consultant team, the City, the MPO, and NDDOT agreed that neither DeMers Avenue or 5th Street would be considered for angle parking due to the higher traffic volumes ((15,000 – 15,500 vehicles per day (vpd) on DeMers, and 3,200 – 5,000 vpd on 5th) on these important routes through the downtown.

NDDOT officials requested that angle parking plans consider items identified in AASHTO's *A Policy on Geometric Design of Highways and Streets* document (the "Green Book"). This document does recognize that angle parking can be considered; however, recommend that it starts no closer than 20 feet from intersecting streets. This was adopted for the plans prepared as part of this study.

Angle parking is one option that has the ability to increase the amount of on-street parking potentially freeing up other off street spaces. It also has support from stakeholders and attendees at the public meetings.

Locations that were examined for angle parking were separated into three stages based in part on where the highest demand levels exist. These proposed stages are illustrated in Figure 23 and are listed below.

The first stage of angle parking would be a test section on:

- 3rd Street from 2nd Avenue to 1st Avenue
- 2nd Avenue from 3rd Street to 4th Street

The second stage of angle parking, assuming the test proves successful, would be implementing angle parking on:

- 1st Avenue from 3rd Street to 4th Street
- 3rd Street from University Avenue to 2nd Avenue
- 3rd Street from 1st Avenue to Division Avenue

The third stage of angle parking (if required) would include:

- 4th Street from University Avenue to DeMers Avenue.
- 2nd Avenue from 5th Street to 6th Street
- 1st Avenue from 4th Street to 6th Street

Not all portions of the noted streets may be applicable for angle parking and will need to be examined prior to implementation. Examples include along the federal building at 1st Avenue/4th Street and along Central High.

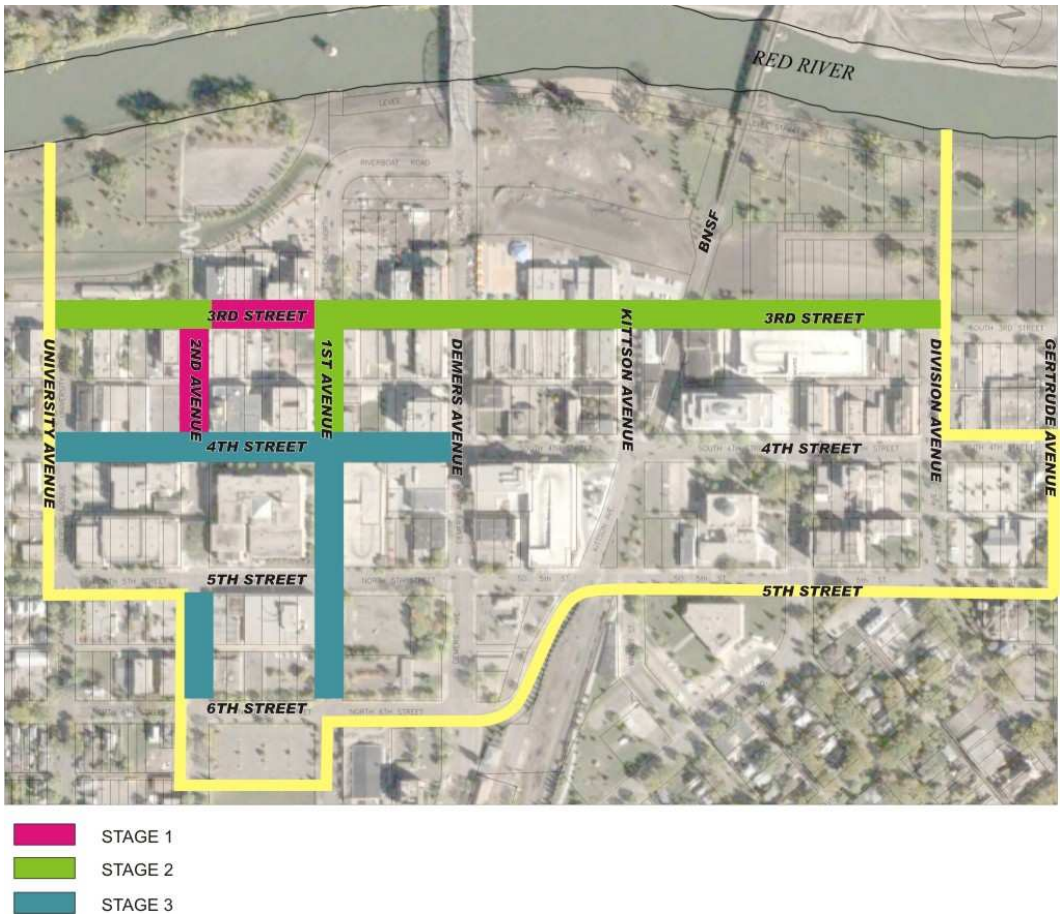


Figure 23: Stages of Angle Parking Implementation

Streets with an AADT of less than 3,000 vpd were considered for angle parking (based on MnDOT State Aid Manual guidelines for angle parking). In addition to DeMers Avenue and 5th Street, other study area roadways with traffic above 3,000 vpd, includes:

- 4th Street from DeMers Avenue to Bruce Avenue
- University Avenue west of 5th Street

Traditionally, angle parking has been of the drive-in/back-out variety. Many jurisdictions have removed angle parking in order to free up roadway space for traffic capacity, reduce traffic conflicts, and improve safety. In recent years more interest has been shown in angle parking in downtown areas. Part of the interest in angle parking is related to consideration of context sensitive design. Depending on available roadway space, angle parking may be provided on one side with parallel parking on the other (as suggested for Grand Forks due to available street width). The side for angle parking can be based on which side will maximize the number of spaces. Retained parallel parking on the driver's right side, in the case of one-way streets, is considered easier for drivers as it is more commonplace.

An advantage of angle parking can be reduced maneuvering time. An article in the February 2002 issue of the ITE Journal (*Changing On-Street Parallel Parking to Angle Parking*) reported that the average time to back into a parallel space is 21 seconds, dropping to 11–12 seconds with angle parking. It also noted that angle parking provides an increased separation distance between pedestrians and moving vehicles, and that streets with volumes over 10,000 vpd are not good candidates for angle parking due to disruption to traffic flow (for the purposes of this study, the MNDOT guideline of 3,000 vpd has been applied). A case study from downtown San Marcos, Texas showed that mid-block accident frequency was relatively insignificant in this city with extensive angle parking on almost all downtown streets.

Drive-in/back-out parking offers the following advantages:

- More familiar to drivers than back-in/drive-out parking due to its use at off-street lots, and on some downtown street in Grand Forks and East Grand Forks.
- Adds additional on-street parking spaces compared to parallel spaces.

Drive-in/back-out parking has the following disadvantages:

- Drivers must exit the parking stall with a potential blind spot, thereby increasing the chance of a collision.
- Longer vehicles may intrude into the driving aisle.

- The use of islands to help delineate the parking layout can result in additional snow clearing effort.

- Uncommon for on-street parking compared to parallel parking for most drivers.

Back-in/drive-out parking offers the following advantages:

- Drivers can exit the space with a better view of the road, and hence less chance of conflict upon exit compared to drive-in/back-out parking.

- Similar to backing into a parallel parking space, although with one less movement typically.

- Allows for curbside loading/unloading to/from trunks.

- Adds additional on-street parking spaces compared to parallel spaces.

Back-in/drive-out parking has the following disadvantages:

- Unfamiliar to drivers and will require an educational program.

- Uncommon for on-street parking compared to parallel parking for most drivers, or with drive-in/back-out parking, which is found at off-street lots.

- Longer vehicles may intrude into the driving aisle.

- The use of islands to help delineate the parking layout can result in additional snow clearing effort.

It should be noted that some of the advantages of back-in/drive-out parking relate to the case where the parking is on the driver's right side as opposed to on the left side as with a one-way street. The angle of view advantage is reduced on the left side since the driver must look to the right at greater than 90 degrees. In the case of downtown Grand Forks, all streets feature two-way traffic flow.

Another item to recognize is with the creation of the islands for angle parking additional snow clearing effort may be required. Additional information on angle parking, including comparisons between drive-in angle parking and back-in angle parking is included in Appendix E.

In selecting areas for conversion to angle parking, the increase on specific blocks should be considered as in some cases there might be minimal increases with angle parking (e.g., if there are a number of approaches or loading areas, etc.) which may not justify the cost of the conversion. Another consideration is the conversion cost. The cost of off-street spaces is in the order of $2000 to $3000 per space (excluding land and engineering); if the additional angle parking spaces require a higher cost expenditure, implementing angle parking may need to be

reconsidered. Offsetting the cost is the fact that adding additional on-street spaces may allow redevelopment of existing off-street spaces without reducing the overall downtown parking supply.

8.1.1 Drive-In Angle Parking

Drive-in angle parking is currently used in downtown Grand Forks, East Grand Forks and is commonly used in area commercial parking lots. The increased number of spaces that drive-in angle parking could offer varies depending on street length, and the number of obstructions/entrances. Table 14 shows the existing number of parking spaces, the future number of drive-in angle parking spaces, the net increase in parking spaces and the percent increase for the locations that were examined.

The width of the downtown streets is typically 51 feet throughout downtown Grand Forks; this allows for one, eight foot parallel parking lane, two driving lanes, one at 12 feet, and one at 13 feet (adjacent to the angle parking), and one 18 foot drive-in angle parking lane with parking at a 45 degree angle.

The available driving lane space is similar to what temporarily exists along 3rd Street from 1st to 2nd Avenues, and on 2nd Avenue from 3rd to 4th Streets due to lane closures associated with construction. Figure 24 illustrates the street usage along 3rd Street from 1st to 2nd Avenue looking south. The street is 51 feet wide, with a construction fence eight feet from the curb. The parallel parking lane, combined with the portions of the street that are closed, is approximately the same as the space required for an angle parking lane.

Figure 24: 3rd Street From 1st to 2nd Avenue Looking South

Table 14: Drive-in Angle Parking

	Existing Spaces	Angle Parking Spaces	Net Increase	Percent Increase
Stage 1				
3rd Street, 2nd Avenue to 1st Avenue				
East Side	14	20	6	43%
West Side	14	20	6	43%
2nd Avenue, 3rd Street to 4th Street				
North Side	9	9	0	0%
South Side	12	16	4	33%
Stage 2				
1st Avenue, 3rd Street to 4th Street				
North Side	12	12	0	0%
South Side	12	16	4	33%
3rd Street, University Avenue to 2nd Avenue & 1st Avenue to Division Avenue				
East Side	75	105	30	40%
West Side	69	92	23	33%
Stage 3				
1st Avenue, 4th Street to 6th Street				
North Side	19	33	14	74%
South Side	16	27	11	69%
2nd Avenue, 5th Street to 6th Street				
South Side	10	15	5	50%
4th Street, University Avenue to Demers Avenue				
East Side	36	46	10	28%
West Side	26	37	11	42%

Table 14 illustrates that increased parking is available with drive-in angle parking, with a higher percentage typically on longer block lengths. Table 15 summarizes the total number of existing spaces on the avenues and streets where drive-in angle parking could be implemented, the total number of potential drive-in angle parking spaces and the net and percent increases for converting from parallel parking to drive-in angle parking. If angle parking were to be implemented on the South and East sides of the roads (for Stage 1 & 2) there would be a total increase of 44 parking spaces.

Table 15: Drive-in Angle Parking Totals (Stages 1 & 2)

	Existing Spaces	Angle Parking Spaces	Net Increase	Percent Increase
Avenues				
North Side	21	21	0	0%
South Side	24	32	8	33%
Streets				
East Side	89	125	36	40%
West Side	83	112	29	35%

Figure 25 illustrates the drive-in angle parking concept in the area noted as a demonstration project in Section 9.0. Concept plans for the angle parking locations noted in Table 14 are provided in Appendix G.

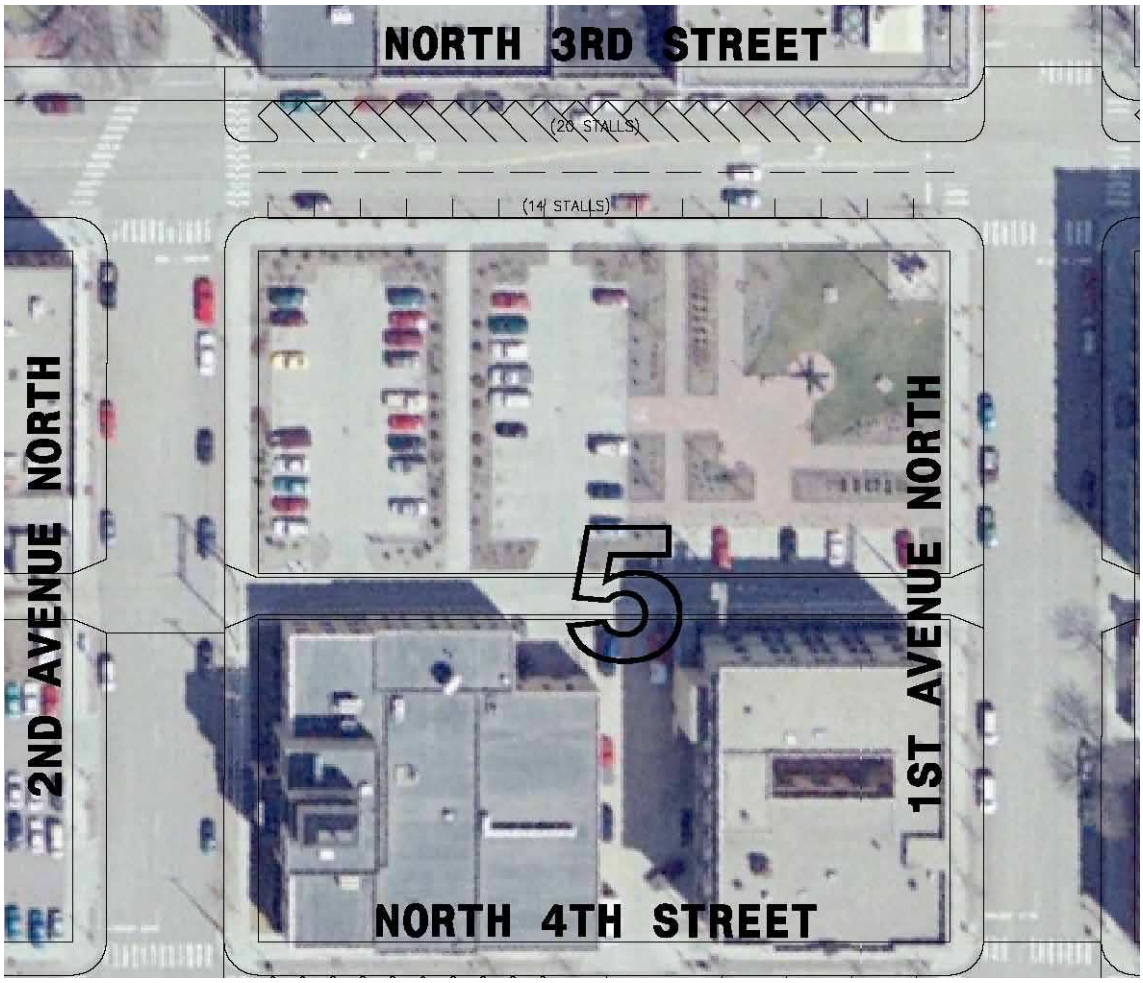


Figure 25: Drive-In Angle Parking Concept

8.1.2 Back-In Angle Parking

The literature search and survey of other cities in the region found that many jurisdictions have successfully used on-street back-in angle parking. A key advantage with back-in angle parking is that drivers can exit the space with a better view of the road, hence less chance of conflict upon exit compared to drive-in angle parking. Table 16 shows the existing number of parking spaces, the future number of back-in angle parking spaces, the net increase in parking spaces and the percent increase for various locations.

Table 16: Back-in Angle Parking

	Existing Spaces	Angle Parking Spaces	Net Increase	Percent Increase
Stage 1				
3rd Street, 2nd Avenue to 1st Avenue				
East Side	14	20	6	43%
West Side	14	20	6	43%
2nd Avenue, 3rd Street to 4th Street				
North Side	9	11	2	22%
South Side	12	16	4	33%
Stage 2				
1st Avenue, 3rd Street to 4th Street				
North Side	12	14	2	17%
South Side	12	16	4	33%
3rd Street, University Avenue to 2nd Avenue & 1st Avenue to Division Avenue				
East Side	75	103	28	37%
West Side	69	94	25	36%
Stage 3				
1st Avenue, 4th Street to 6th Street				
North Side	19	34	15	79%
South Side	16	26	10	38%
2nd Avenue, 5th Street to 6th Street				
South Side	10	15	5	50%
4th Street, University Avenue to Demers Avenue				
East Side	36	45	9	25%
West Side	26	37	11	42%

Table 16 illustrates that increased parking is available with back-in angle parking, with a higher percentage typically on longer block lengths. Table 17 shows the total number of existing spaces on the avenues and streets where back-in angle parking could be implemented, the total number of potential back-in angle parking spaces and the net and percent increases for converting from parallel parking to back-in angle parking. If angle parking were to be implemented on the South and East sides of the streets (for Stage 1 & 2) there would be an increase of 42 parking spaces.

Table 17: Back-in Angle Parking Totals (Stages 1 & 2)

	Existing Spaces	Angle Parking Spaces	Net Increase	Percent Increase
Avenues				
North Side	21	25	4	19%
South Side	24	32	8	33%
Streets				
East Side	89	123	34	38%
West Side	83	114	31	37%

The width of the downtown streets is typically 51 feet throughout downtown Grand Forks; this allows for one, eight foot parallel parking lane, two driving lanes, one at 12 feet, and one at 13 feet (adjacent to the angle parking), and one 18 foot drive-in angle parking lane with parking at a 45 degree angle.

Figure 26 illustrates the back-in angle parking concept in the area noted as a demonstration project in Section 9.0. Concept plans for the angle parking locations noted in Table 16 are provided in Appendix G.

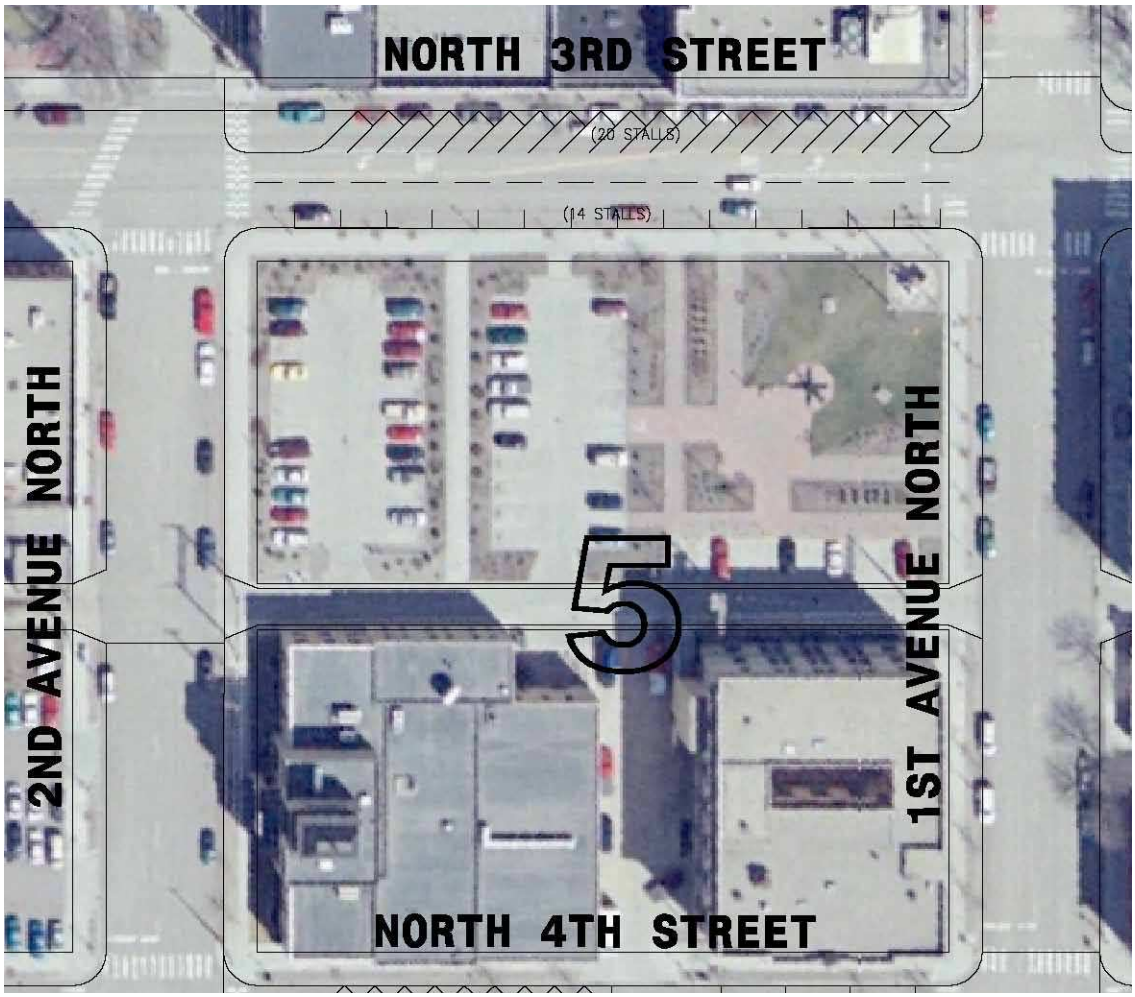


Figure 26: Back-In Angle Parking Concept

8.2 Time Restrictions

A concern raised by many stakeholders is the lack of available on-street parking for customers during the day and evenings. Currently during the day employees and high school students take many of the on-street parking spaces up; in the evening and overnight, downtown residents are using some spaces.

One possible option to help address this problem would be on-street parking time restrictions such as, no on-street parking between the hours of 7:30 – 9:00 a.m. This time period would preclude most employees and students from parking on the street when they arrive for work or school. It would also mean that downtown residents who park on the street would either need to move their vehicles by 7:30 a.m., find alternative parking, or qualify for a permit (if that measure was also implemented). Exceptions would be required to allow loading zones for short-term parking at locations such as Dakota Bakery, Widman's Chocolates etc. or through the use of on-street parking permits

It should be recognized that this, along with many of the strategies discussed in Section 8, are more effective when combined with other strategies. In this case, time restrictions will need to be combined with regular enforcement.

8.3 Permits

The use of on-street parking permits could be used to allow parking during restricted times. Permits could be used to allow those who require accessible parking to be able to park on-street, or for those how can prove residency downtown and who have no alternative parking options. These permits could be tied to specific locations in order to free more spaces for casual users at critical locations such as along 3rd Street.

Permits could either be provided at no cost (except for a deposit to cover loss), especially for accessible permits, or for a charge comparable to an off-street space given that the space is being used in the same manner as an off-street reserved space.

8.4 Parking Space Allocation

The parking inventory completed as part of this study indicates that there does not appear to be a parking shortage, but rather, more a problem with parking distribution and allocation. As an example, the lower levels of all three ramps were reasonable full, primarily with reserved spaces, whereas the upper floors had considerable more available parking, even when on-street spaces were well utilized. Having the upper floors of the ramp more utilized could free up on-street parking and other off-street parking spaces.

People will generally walk different distances for different types of trips. In a mid-size city people will generally walk 250 feet, about 70 seconds, for personal trips, and 400 feet for business and entertainment trips. If a readily available parking space is not available in these walking distances, parking supply will be deemed insufficient. And while people may not come downtown because parking is available, they are more likely to not come downtown if parking is unavailable, or perceived to be unavailable.

Measures to change how spaces are allocated should help make more spaces available for casual users. Measures to consider include:

- Allocate ground floor ramp spaces for casual use, except for accessible monthly spaces; reserved spaces would be shifted to upper levels
- Eliminate overnight on-street parking unless an overnight permit is purchased; overnight spaces would be available on designated blocks only (basically, blocks not actively used in the evening)
- Maintain a certain number of casual spaces in public lots that have reserved spaces
- Rent reserved spaces for daytime use only, e.g., 8:00 a.m. to 6:00 p.m., after which they revert to casual use; extended reserved hours would be available for a higher monthly rate

8.5 Parking Fees

Parking downtown is currently free for the user, except for reserved spaces rented at $25 monthly. Other fees could include a permit fee for on-street parking during restricted times, and differential parking fees. The intent of the fee structure is to discourage certain types of parking in certain areas, encourage certain types of parking in certain areas, increase parking revenues in order to reduce reliance on the parking assessment, provide additional funds for maintenance, and accelerate paying the debt on the ramps.

A suggested fee structure includes:

- Monthly parking at $25/month for the upper levels
- Monthly parking at $35/month on the 2nd floor of the ramps
- Monthly parking at $50/month on the ground floor of the ramps
- Monthly parking at $35/month at surface lots
- Monthly parking for on-street permit at $35/month

Monthly fees should be reviewed on an annual basis and adjusted as required to ensure operating and maintenance costs are recovered, and to further encourage shifts in parking location. The intent is to shift monthly users in order to free up spaces for casual users on the street, in surface lots, and on the ground level of the ramps.

In the event that the City does not wish to charge for on-street permits, permits could still be issued, but still limited to specified locations. Regular enforcement would be needed to ensure compliance.

8.6 Enforcement

Community service officers currently enforce on-street parking. Grand Forks Police noted that the department is short staffed and parking enforcement downtown occurs approximately two day a week. Overnight parking is enforced by a regular police officer when the manpower is available.

Urban Development oversees off-street enforcement through contract staff. Enforcement occurs mostly based on complaints; if a vehicle has been in one spot more than 24 hours the vehicle could be ticketed or towed.

Many of the other strategies discussed in this section require regular enforcement to maximize benefits. Initially increased enforcement will likely increase fine revenues, however, as the public recognizes that past behavior will no longer be consequence-free, compliance should increase and fine revenues decline. As new measures are put in place and enforcement levels increase, an education program would be beneficial; this could be combined with a two-week grace period in which fines will be set at zero.

If enforcement were to continue under the existing model, additional police resources would be required. Alternatively, a single group (e.g., Urban Development) could be tasked to enforce all on and off-street parking in the downtown. It is estimated that two parking officers, (with an estimated payroll cost of $50 000 per person), would be required to enforce parking in the downtown.

Ideally, fines should be allocated to maintain/improve public parking facilities as well as potentially allowing for a reduction in the downtown parking assessment.

8.7 Signage

A comment raised by many stakeholders and public meeting attendees was that people don't know where they can park. The Central Ramp features clear signage indicating parking is available, as does the lot at 3rd Street and 1st Avenue (although it is now primarily reserved parking).

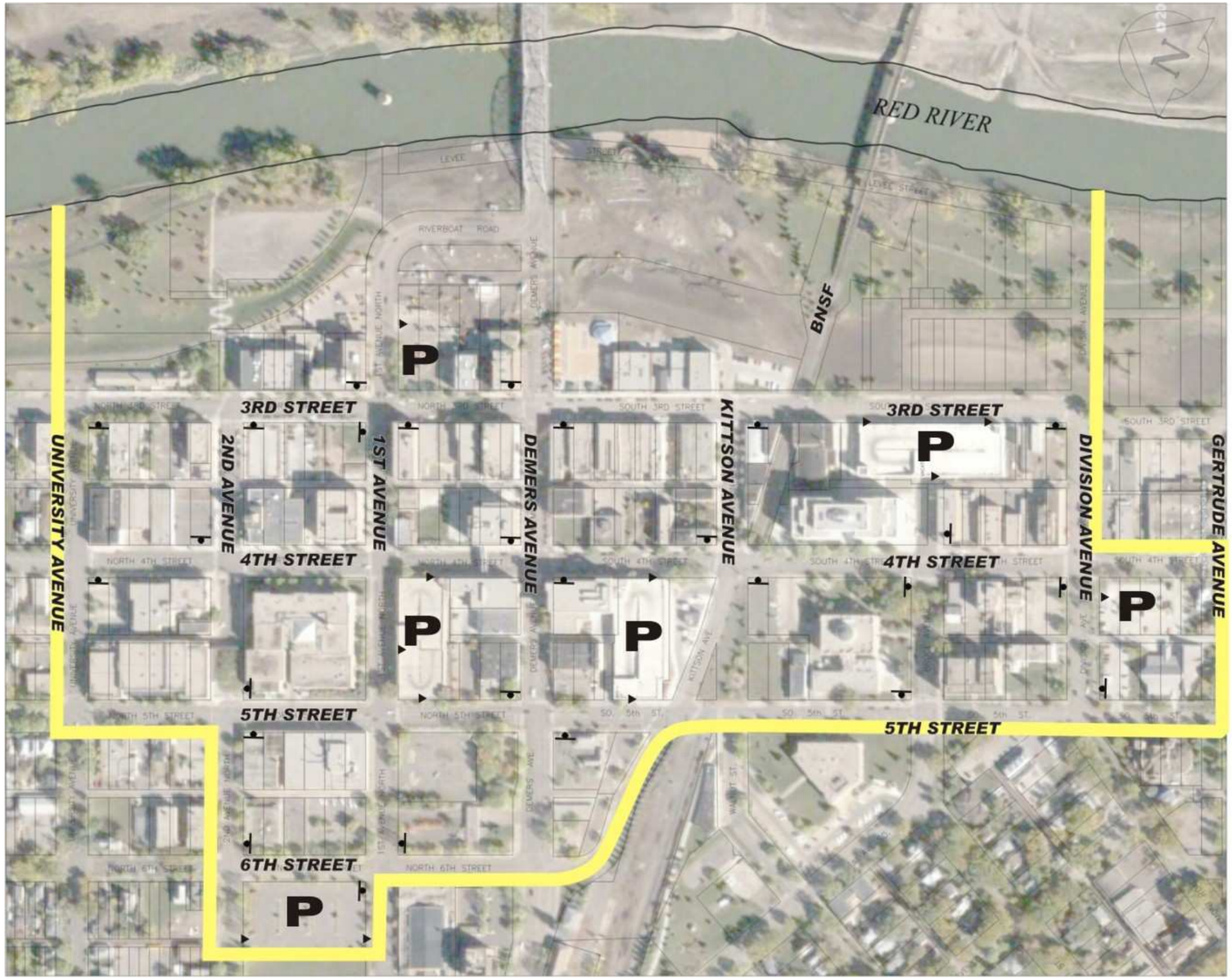
Consistent signage for all public parking, whether publicly or privately owned, is required to direct drivers to available parking. Once inside the ramps, signage is needed to clearly identify where casual public parking is located.

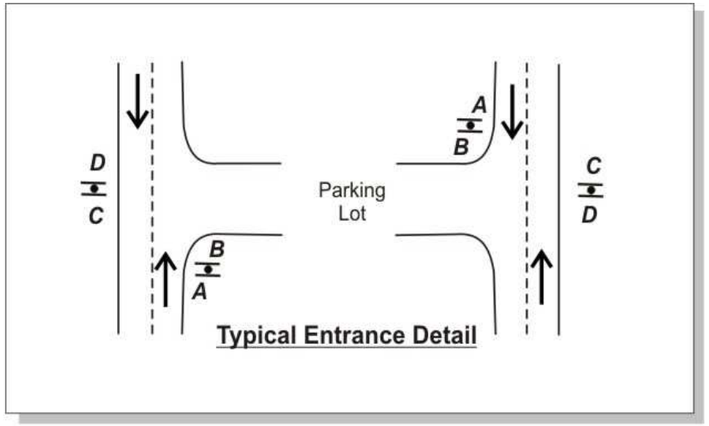
Cost estimates were approximated for directional signage at $200 per sign; based on an estimate of 40 signs, an initial cost estimate would be $8000.

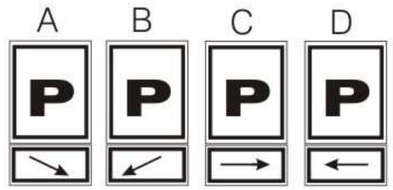
Downtown parking maps available on the City and MPO websites, and distributed through the downtown businesses would make people aware where they can park and what time restrictions are in place.

Figure 27 illustrates potential signage types and locations. Examples of parking maps from cities contacted during the survey of other cities are provided in Appendix F.

It should also be noted that the MPO recently completed a trail blazing study incorporating downtown signage that is also planned for implementation.







Study Area Boundry
P Public Parking
Parking Directional Signage
Parking Lot Entrance (See Typical Entrance Detail)
Direction of Traffic

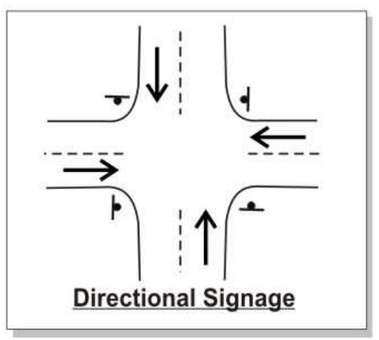


Figure 27: Downtown Parking Signage

8.8 Ramp Upgrades

The three public ramps feature many good design features, including items that improve visibility and the sense of security, such as open modules without intermediate columns. A number of items of concerns were identified during the field visit to the public ramps. Some are structural in nature, however others relate to security concerns and the general attractiveness of the ramps. Features, and estimated costs, that would be desirable, and address comments received from stakeholders and public meeting attendees include:

1. Paint or stain the interior walls white to reduce shadows, increase reflectivity. Estimated cost - $2,000 per floor

2. Ensure that all interior lights are functioning. It is assumed this will be addressed as part of the normal maintenance program.

3. Paint the steel components in the stairwells. Estimated Cost - $750 per floor per stairwell.

4. Install and monitor security cameras at the Corporate and Central ramps (the Corporate ramp currently has security cameras. Estimated cost - $100,000 per ramp

5. Install emergency buttons at stairwells and elevators. Estimated cost - $25,000 per ramp

6. Add music in stairwells and elevators. Estimated cost - $15,000 per ramp

Table 18: Ramp Upgrades Cost Estimate

Item	Description	Cost
1	Paint interior walls	$2 000 / floor
2	Ensure all interior lights are functioning	$0
3	Paint steel components in stairwells	$750 / floor per stairwell
4	Install & monitor security cameras	$100 000 / Ramp
5	Install emergency buttons	$25 000 / Ramp
6	Add music to stairwells & elevators	$15 000 / Ramp
Total		**$355 000**

8.9 Private Sector Initiatives

While there are measures the City may implement, there are also measures that the private sector could initiate to address specific conserns raised by apartment landlords, restaurant operators, etc. These include:

- Ensure that employees do not park in the prime customer spaces
- Test a valet parking program for restaurants on busier evenings, parking vehicles in nearby lots; this could start as a complimentry service for a trial period but could potentially include a fee to make the service self-financing
- Negotiate with owners of nearby lots to allow customer/staff use of the lot after 6:00 p.m.

8.10 Education Campaign

Regardless of the strategies selected for implementation, an educational/media awarness program would be beneficial. The intent would be to inform the public of changes in downtown parking, the reason for the various measures, identification of where parking is available, what parking options are available, offset perceptions of safety issues, and how parking will be managed in the future.

8.11 Parking Management

There are a number of options on how public parking can be managed in the downtown. Options include:

1. Maintain the existing status quo with Urban Development managing off-street spaces as well as maintenance and enforcement, with Grand Forks Police overseeing on-street enforcement. However, if other measures are implemented such as morning parking restrictions, on-street permits, etc. increased levels of enforcement will be required.
2. Expand the role of Urban Development to also include on-street enforcement.
3. Create a parking authority or commission that would be responsible for all public parking, both on and off-street.

Irrespective of the option selected by the City, another issue is fines related to enforcement, and parking fees. Ideally, these funds would be retained for use in maintaining and upgrading public parking, although it may be appropriate to allocate revenues equivalent to that which currently goes to general revenue, with the balance retained for parking matters.

Another potential use of increased revenues from fees and fines is to reduce the amount of the assessment currently charged to downtown properties.

Police representatives have stated that current manpower levels preclude regular and routine enforcement efforts. If Option 1 were selected, additional resources would be required.

Options 2 and 3 would replace police resources with dedicated enforcement staff, whether City staff or contract staff. Dedicated enforcement staff would allow the entity tasked with overseeing downtown public parking to direct the level of enforcement effort, or focus on particular area. This, plus the feasibility of increased revenue levels associated with the proposed changes in parking fees and enforcement levels, would make these the options preferable. Option 3 has the advantage of making parking a more visible resource and provides the public an instantaneously recognizable entity to contact regarding parking questions or concerns.

9.0 RECOMMENDATIONS

The following recommendations are offered:

1. Address maintenance items in the short-term to both make the ramps more attractive locations to park, and to protect the public investment by maximizing the life expectancy of the facilities.

2. Evaluate a drive-in angle parking demonstration project for at least a six-month period, beginning in the spring of 2007. The recommended location would be on 2nd Avenue between 3rd Street and 4th Street (assuming construction of the brownstone building is complete).

   Although back-in offers many advantages, it should be noted that drive-in angle parking is in use in many jurisdictions, including regional cities contacted in this study, with few reported problems. Angle parking is also currently in place in downtown Grand Forks. If problems become apparent with drive-in parking, then back-in parking could be tested.

   The test period should include a review involving collision experience, potential observed conflicts (similar to techniques used in a road safety audit), public/downtown business acceptance (through surveys), extent of driver compliance, etc.

   The test site(s) could be implemented through line painting, although portable curbs are considered desirable. Permanent installations should include curbing to help direct drivers.

3. Start angle parking at least 20 feet from intersecting street right of ways as per the recommendation in the AASHTO "Green Book" regarding on-street angle parking.

4. Install parking directional signage.

5. Restrict on-street parking from 7:30 to 9:00 a.m. unless a valid permit is obtained. Short-term loading zones could be located in front of businesses such as bakeries, etc.

6. Require permits for overnight and morning peak hour parking, with parking permitted in specified areas only.

7. Reallocate ground floor ramp parking for casual use and for accessible spaces; reserved spaces would be on upper levels.

8. Introduce differential parking fees for reserved parking based on location and type of facility.

9. Prepare a parking map for the downtown for inclusion on the City and MPO website should be prepared. Maps should be available for distribution through downtown businesses.

10. Extend Urban Development's mandate to oversee downtown on and off-street parking, including management, maintenance, and enforcement.
11. Apply revenues from parking collected by Urban Development be applied to maintenance, parking upgrades, and potentially to partially offset the assessment (currently at approximately $550 000).

The following committees reviewed the draft report on the specified dates:

- Grand Forks City Council, reviewed on November 1, 2006
- MPO TAC, reviewed on November 8, 2006
- MPO Executive Board, reviewed on November 9, 2006

Following the reviews of the draft report the committees' recommendations are:

1. Designate the Office of Urban Development to manage the municipal parking system; to enforce parking regulations for all public parking spaces, including those on-street within the municipal parking system's boundaries; and to implement, with Council approval the Study recommendations.

2. Authorize the Office of Urban Development to undertake, subject to available budget, security and maintenance improvements in the Corporate and Central ramps.

3. Apply all revenues generated through management of the municipal parking system to operate, maintain, upgrade the system and to offset, where prudent, parking assessments.

4. Implement angle parking on test sites on 2nd Avenue North with short time parking considerations and North 3rd Street (1sr to 2nd Avenue, once work zone is vacated) starting in the spring of 2007. Engineering staff will begin work to amend the state contracts.

5. Office of Urban Development will coordinate the installation of parking directional signage, prepare a downtown parking map, and survey businesses about 1 hour parking.

6. Office of Urban Development will meet bimonthly with a downtown group to be determined to discuss parking situations.