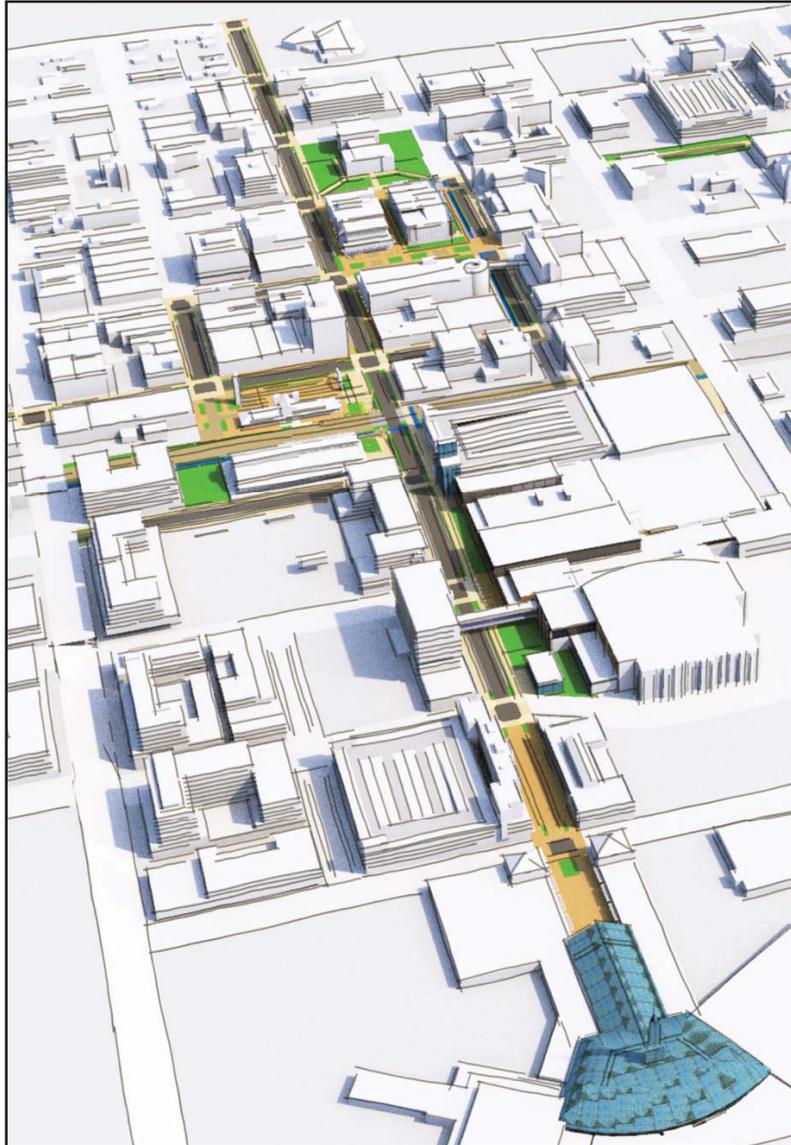




DESIGNING

CONCEPTS AND DESIGN ALTERNATIVES



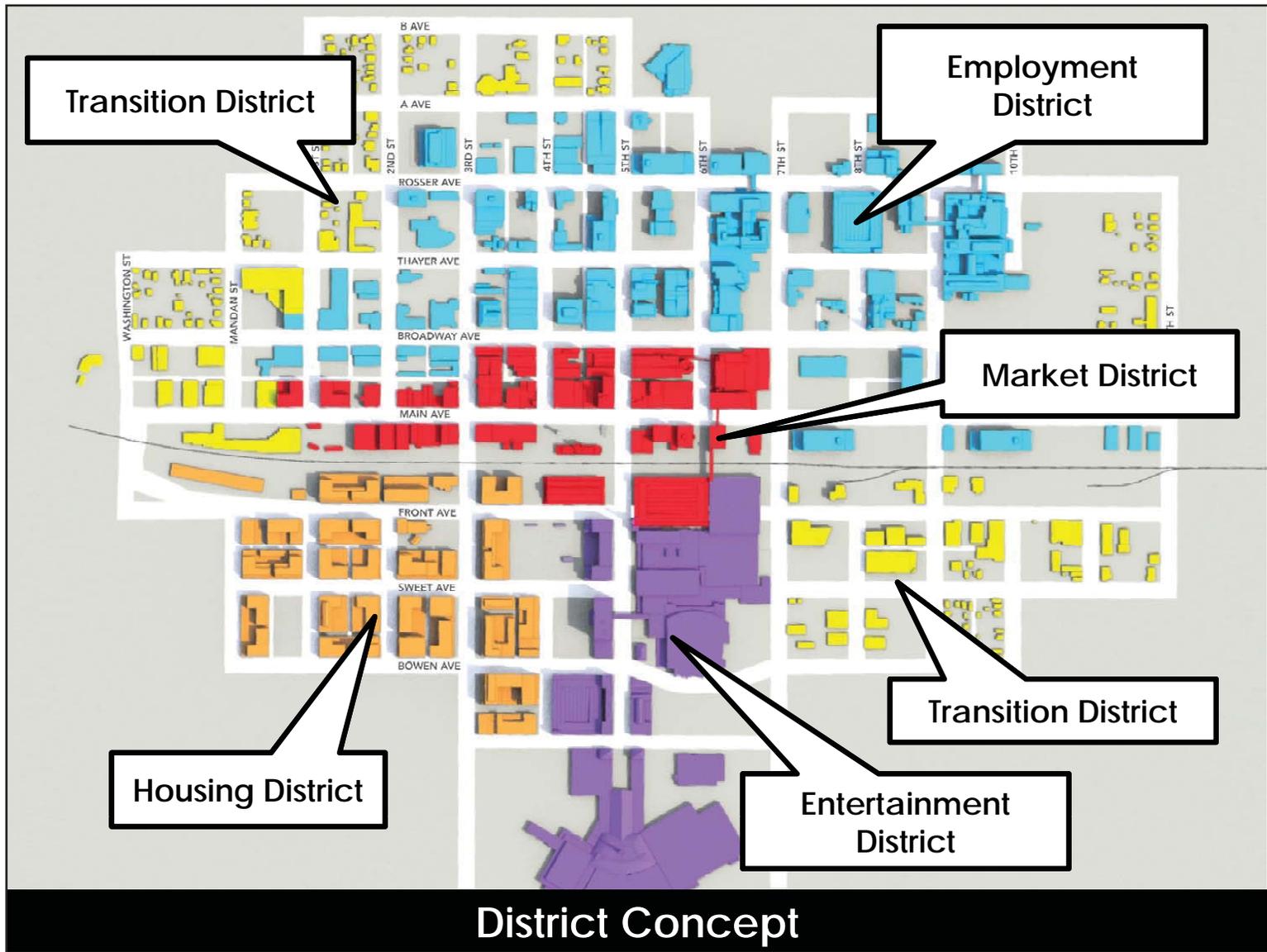
Downtown Bismarck Subarea Study

Bismarck-Mandan MPO
City of Bismarck, North Dakota

MAY 23, 2013

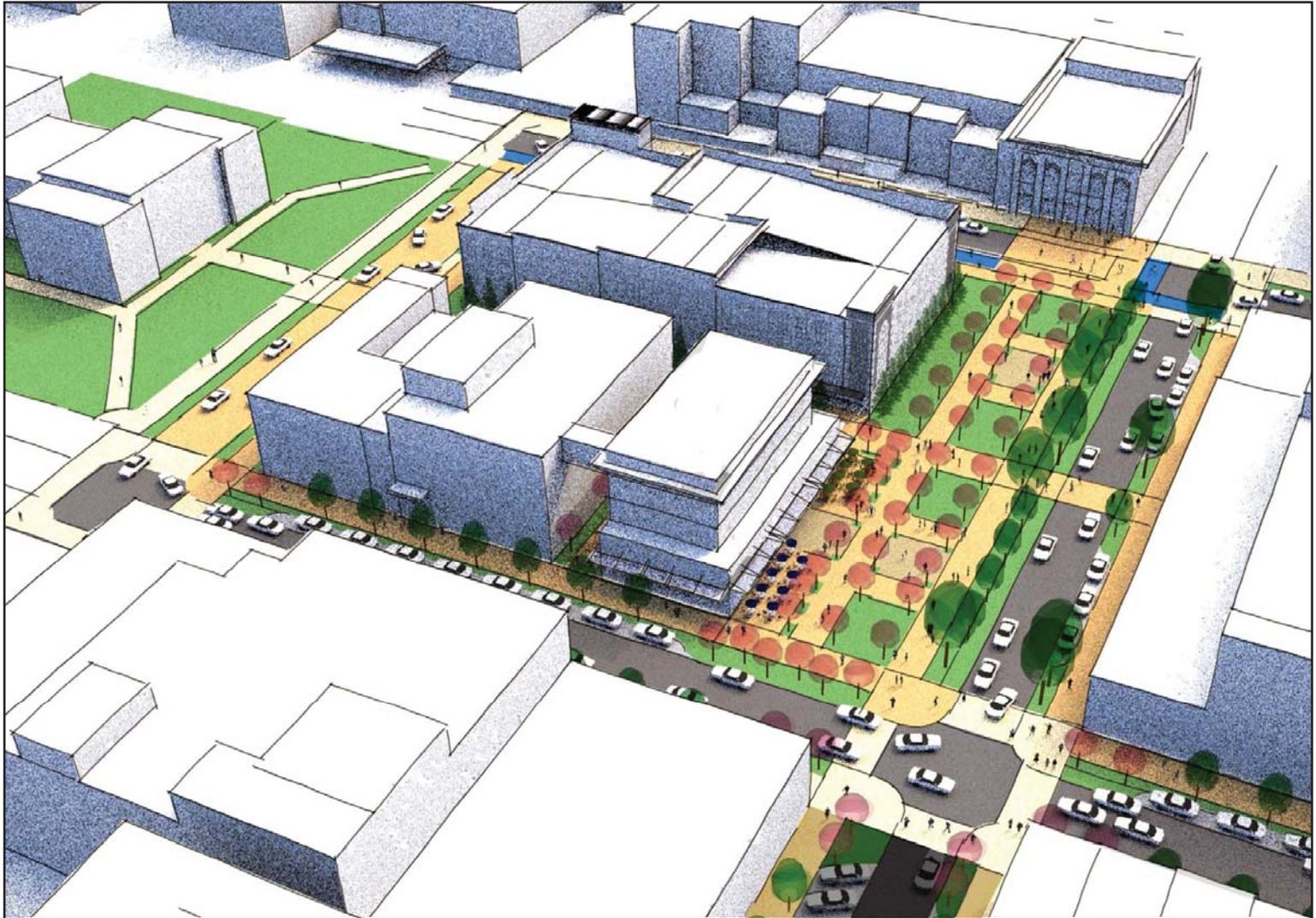
CRANDALL ARAMBULA
Revitalizing America's Cities

SRF + NELSON\NYGAARD + ÜBL

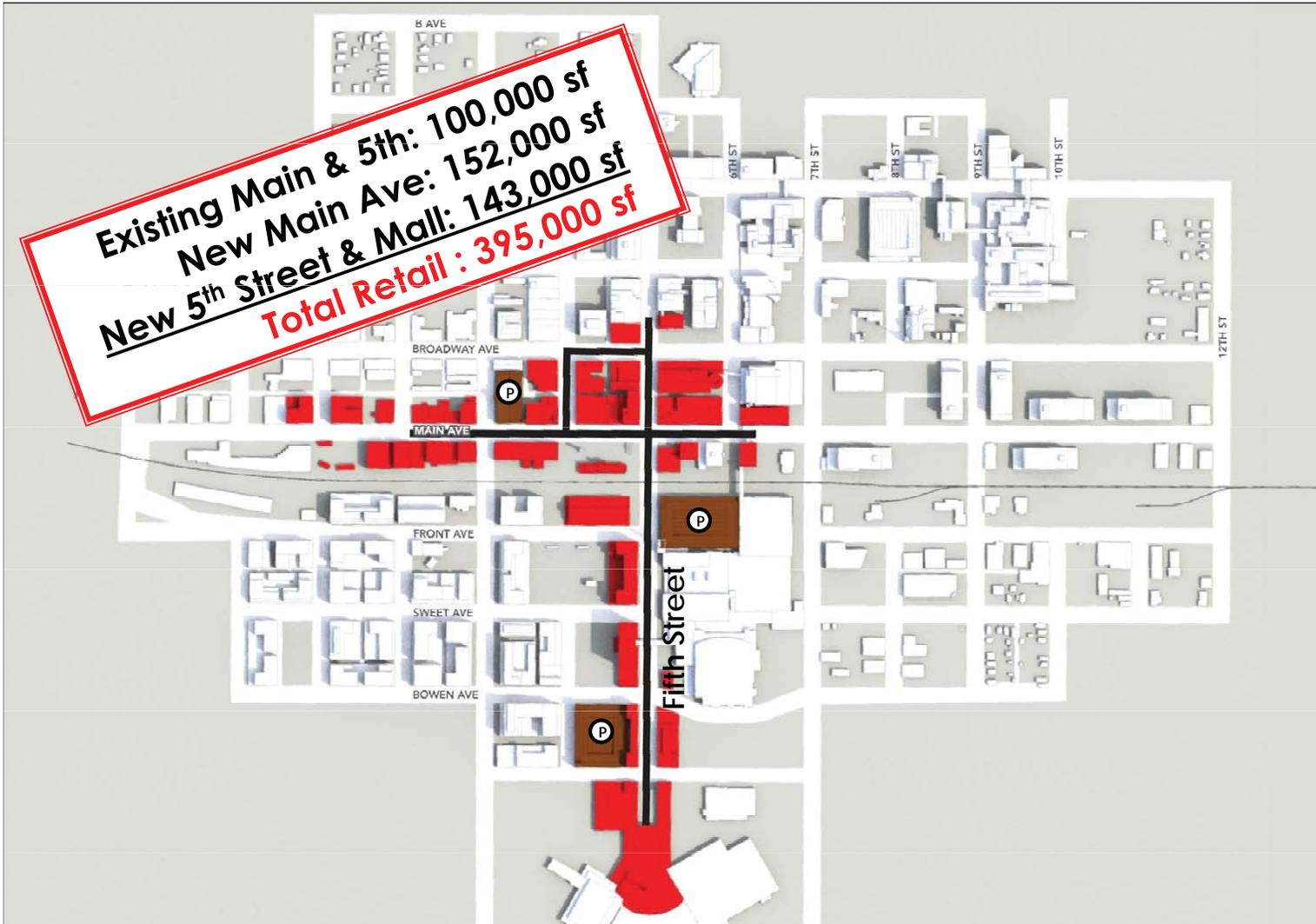




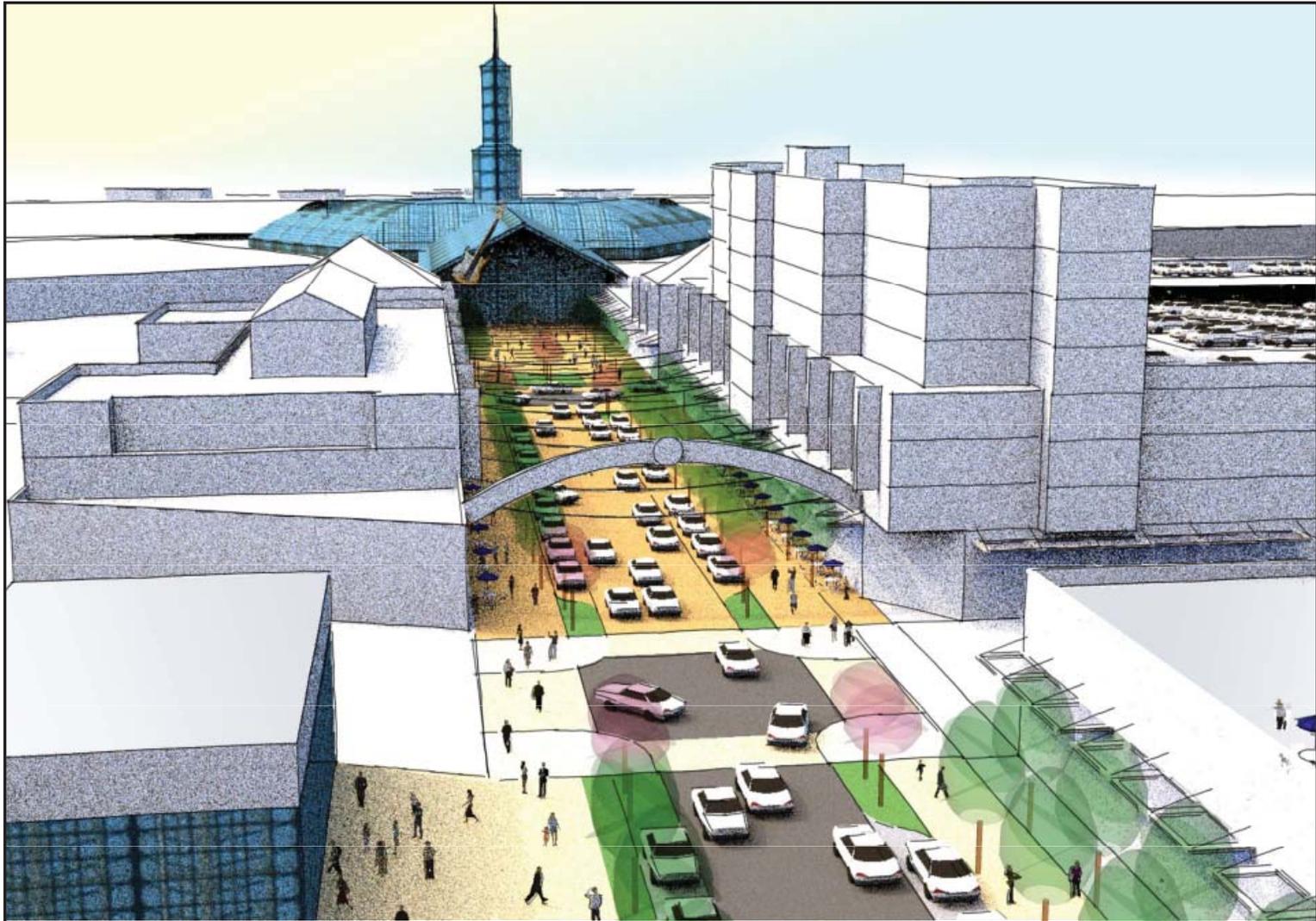
Depot Plaza



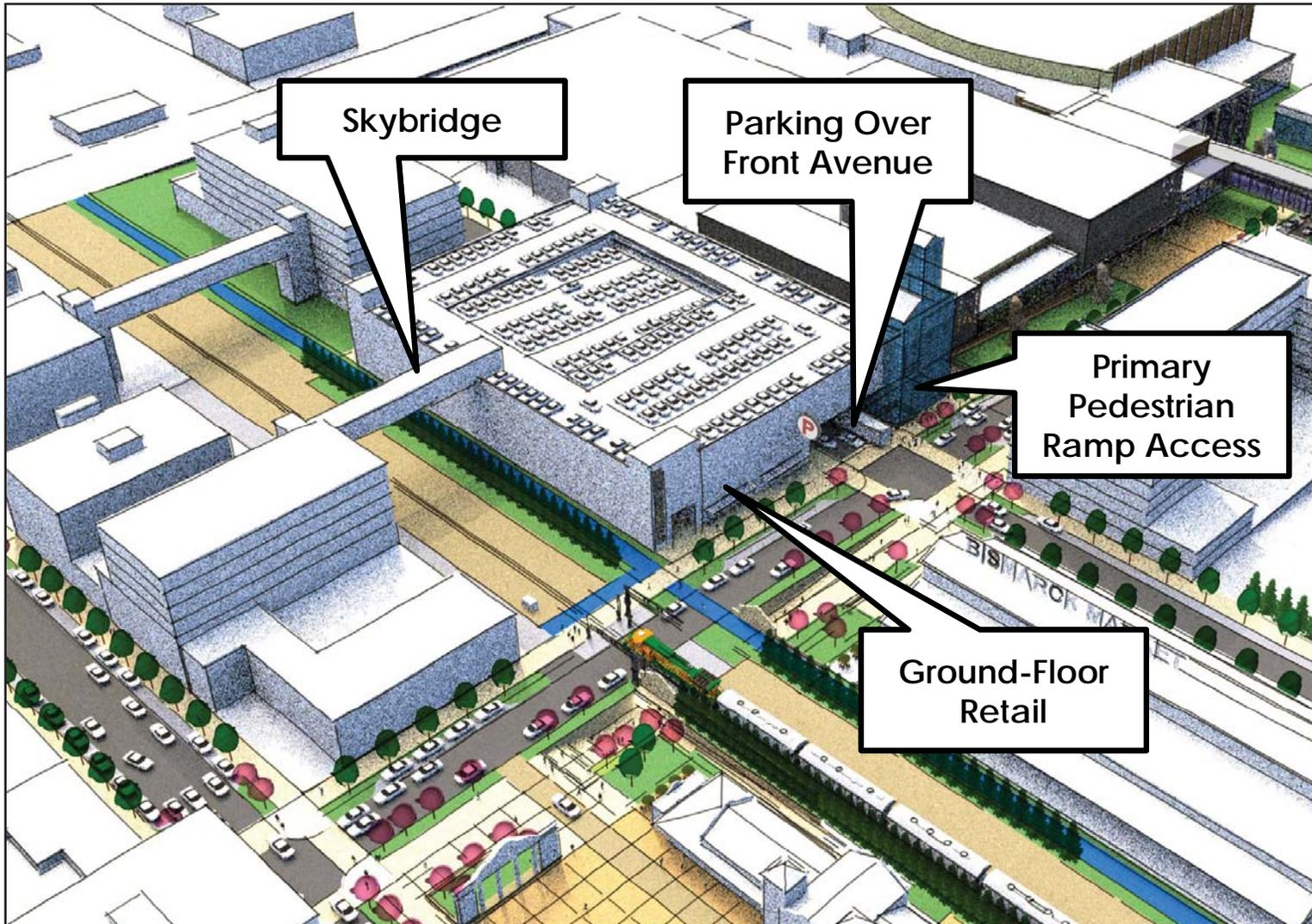
Mehus Commons



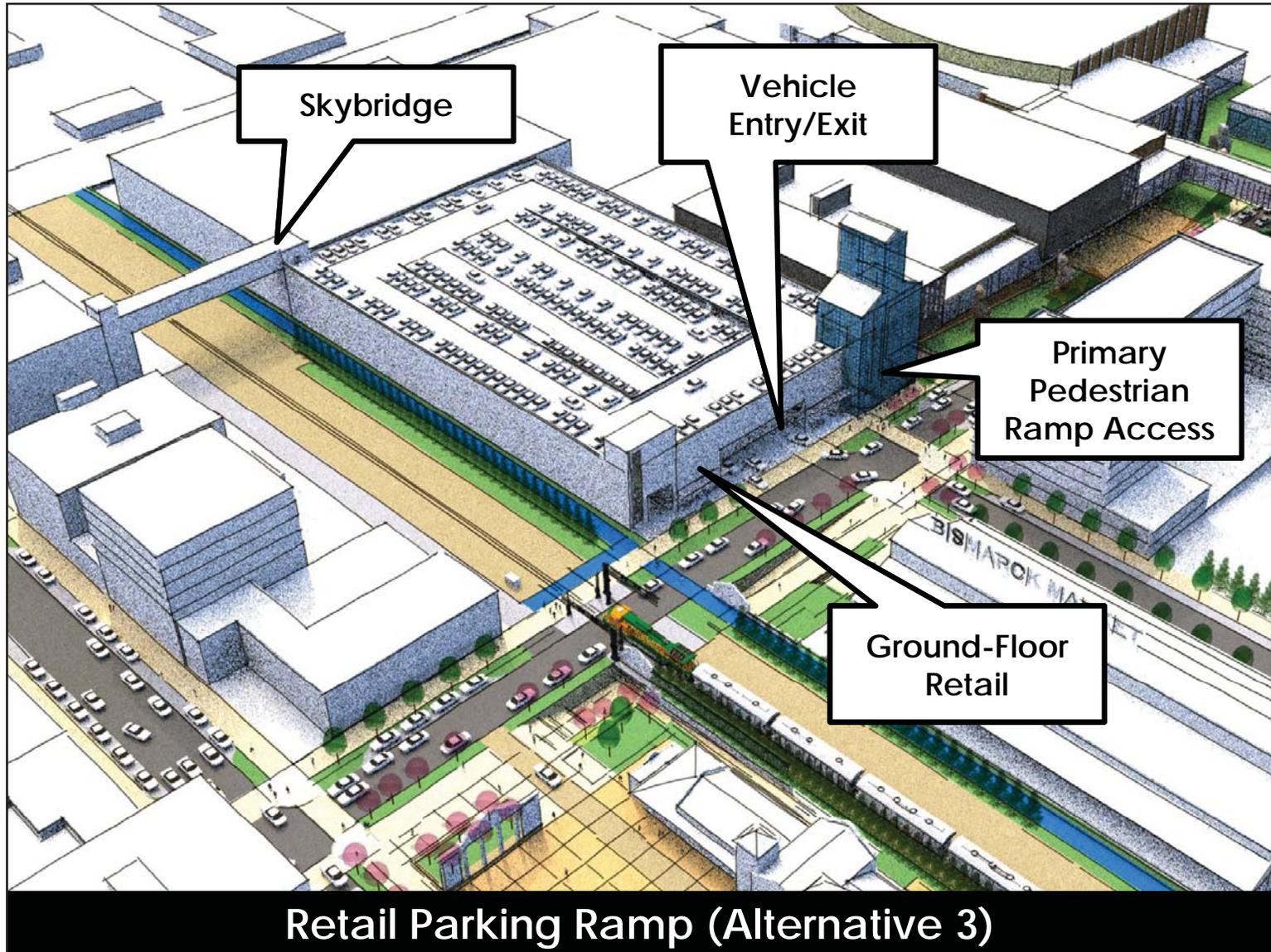
Retail Concept



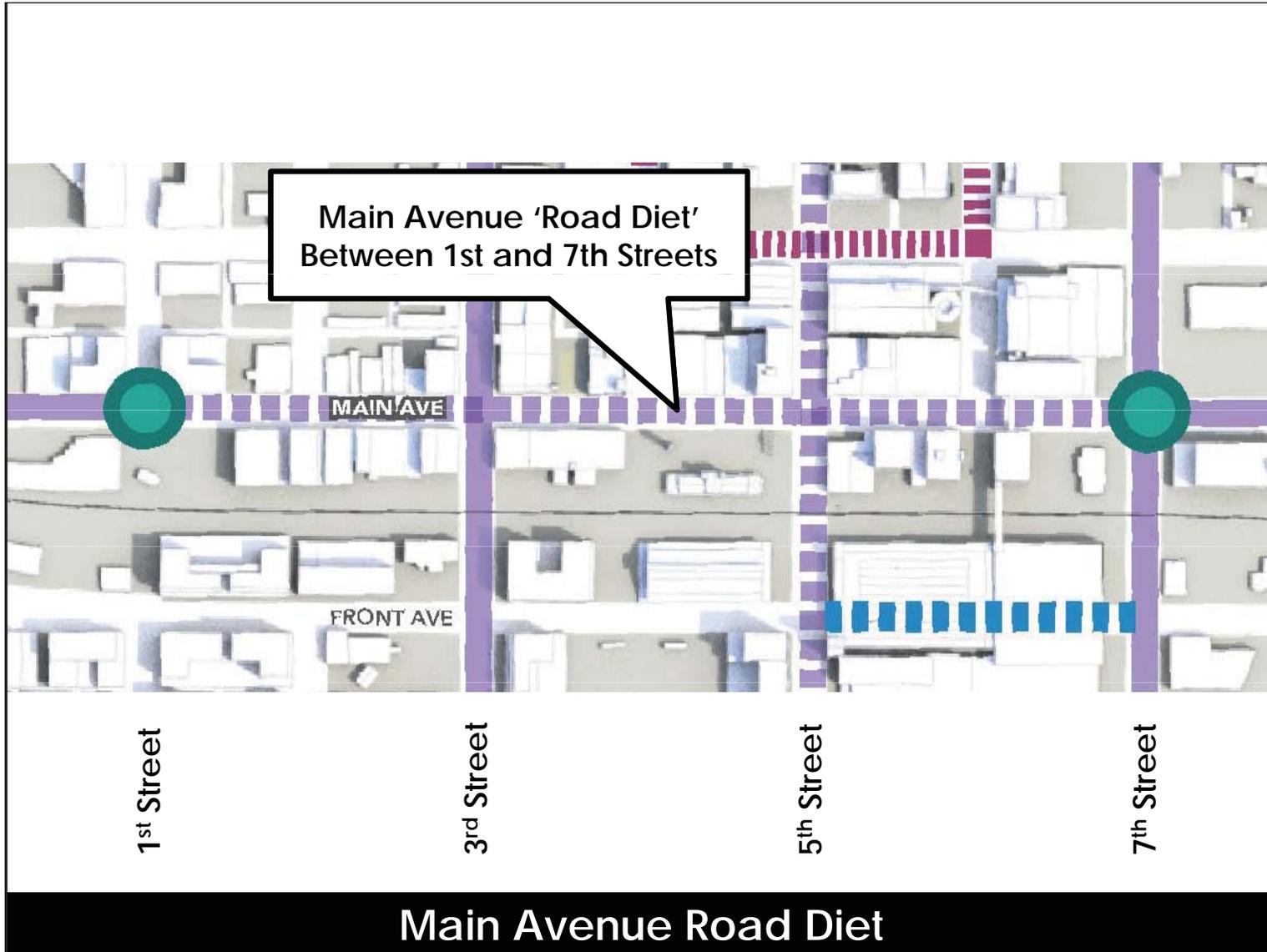
Retail Concept



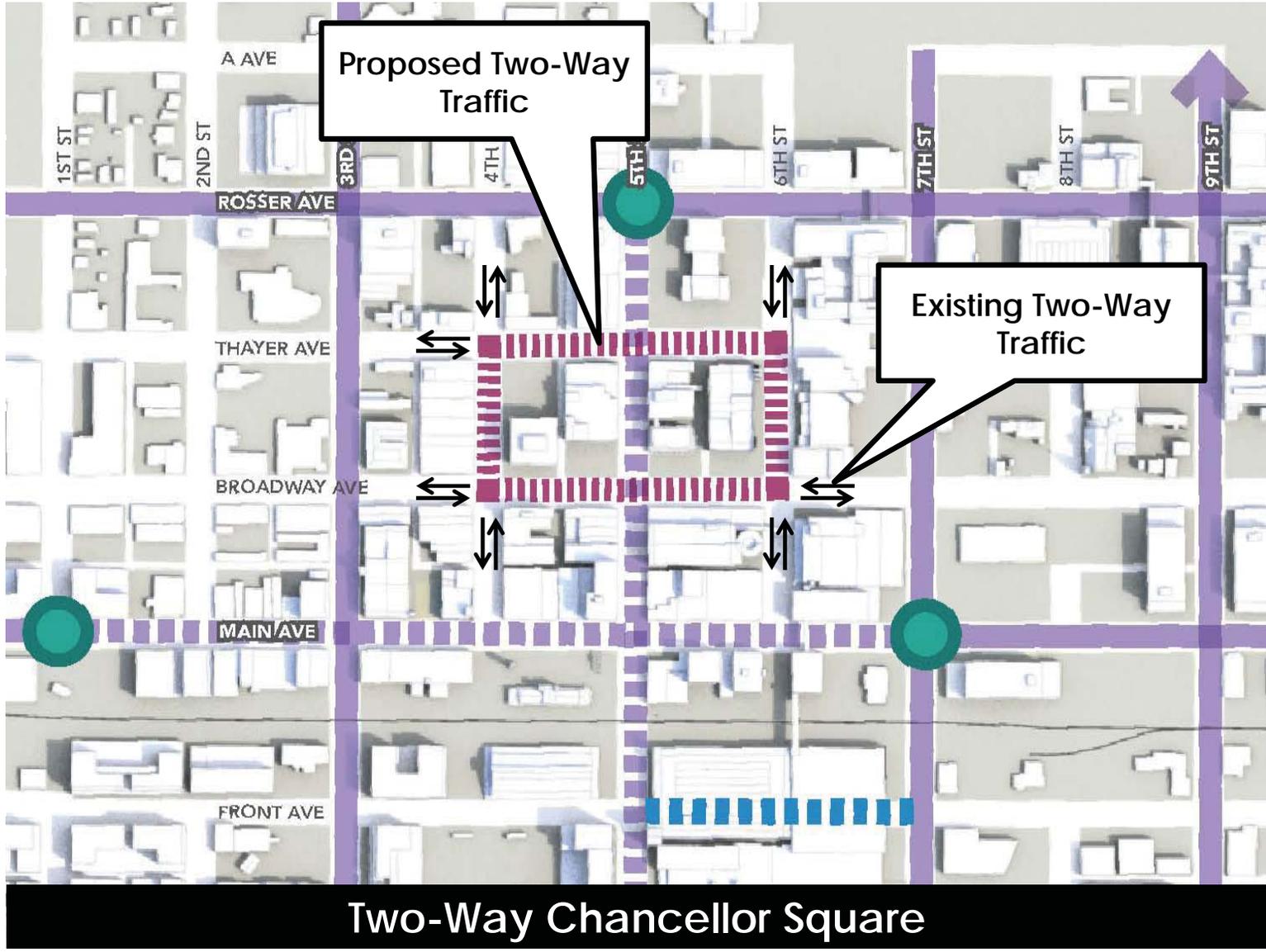
Retail Parking Ramp (Alternative 2)



Retail Parking Ramp (Alternative 3)

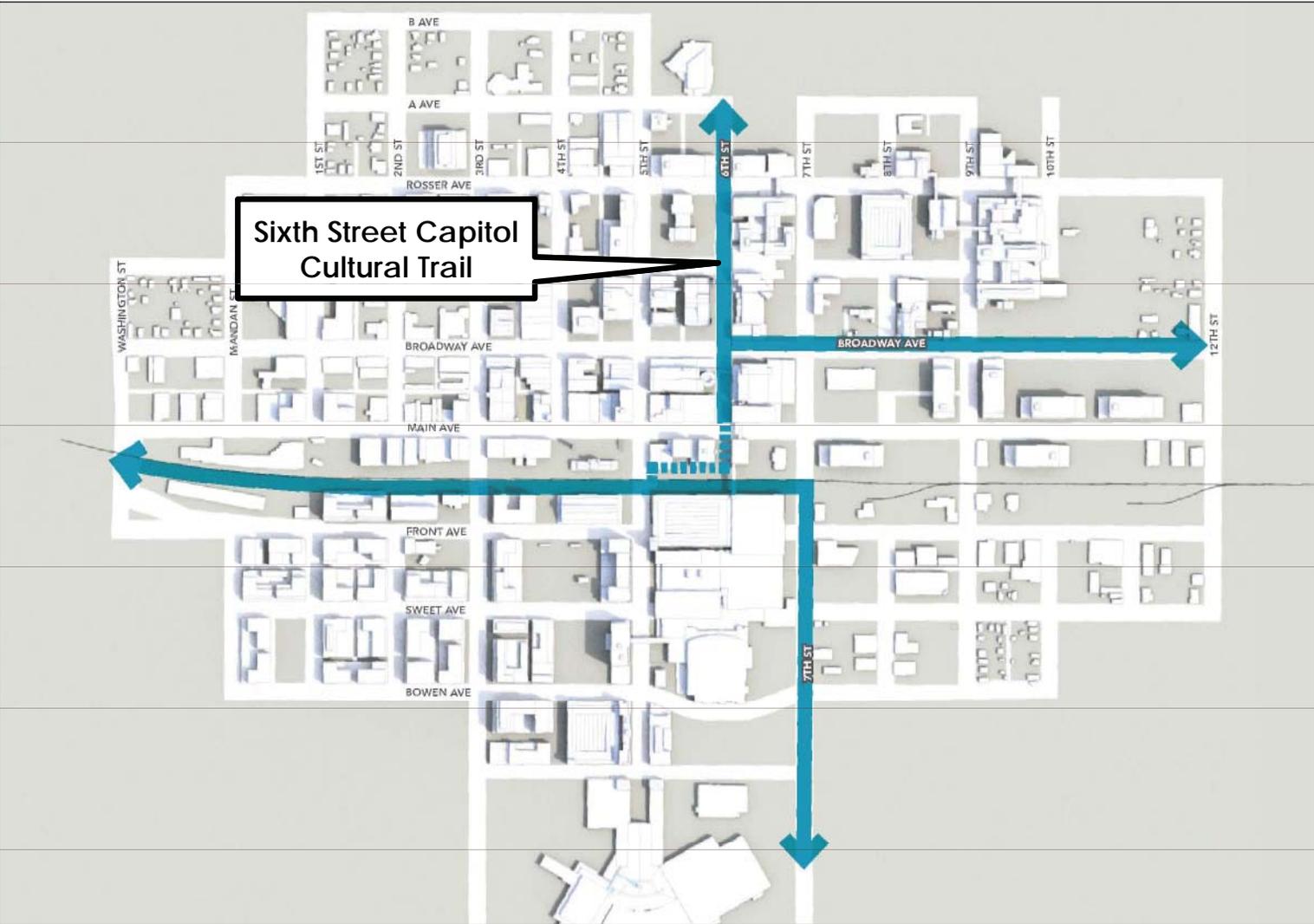








5th Street Pedestrian Underpass (Looking North)



Sixth Street Capitol Cultural Trail

Sixth Street Capitol Cultural Trail



Sixth Street Capitol Cultural Trail

MEETINGS/PUBLIC WORKSHOP #2 SUMMARY

Meeting Summary

Downtown Bismarck Subarea Study Meetings & Public Workshop #2

May 22 - 24, 2013

2

Summary

The second of the Downtown Bismarck Subarea Study committee/stakeholders meetings and public workshop were held May 22nd to May 24th, 2013. During that period, the consultants presided over a total of eleven meetings that included the Technical Advisory Committee, Steering Committee, the Planning Commission and numerous stakeholder groups at the City/County Building located at 221 N. 5th Street.

The Public Workshop #2 was held on May 23rd from 5:30-7:00pm at the Civic Center Prairie Rose Room 205 and was attended by approximately 50 community members.

Additional public input was collected via on-line response sheets- up to June 14th . The on-line response included an additional twenty-four response sheet submittals and comments. The tally on the following page is a summary of all public response sheet submittals.

Meetings and Workshop Purpose

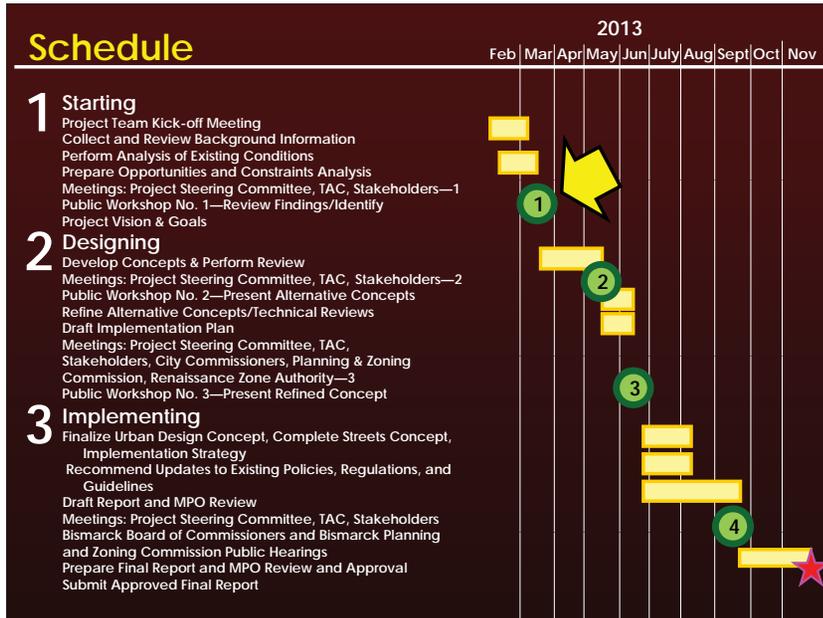
The purpose of the meetings and workshop was to:

- Review Public Workshop #1 Findings
- Present Urban Design and Complete Streets Concepts
- Answer Questions
- Identify Preferences for Urban Design and Complete Street Concepts

Each meeting and the Public Workshop began with the consultants presentation of the project process and schedule (shown above right), a summary of Public Workshop #1, and a review of urban design and complete streets concepts. Following the presentation, attendees discussed the concepts over table maps. The workshop portion concluded with table reports from each group summarizing the discussion. Written response sheets (shown right) were provided to all with the purpose of documenting preferences for eight urban design and complete streets concepts.

The following pages include:

- Response Sheet Tally (Meetings, Workshop and On-line submissions)
- Response Sheet Comments
- Table Reports



Project Process & Schedule

Response Sheet

Downtown Bismarck SubArea Study
 Meetings & Public Workshop #2
 May 22-24, 2013

2

Urban Design Concepts

	Check Preference		
1. District Concept	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Other
2. Green Space Framework			
a. Depot Plaza	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Other
b. Mehus Commons	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Other
3. Retail Concept	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Other
4. 5th & Front Retail/Civic Center Parking Ramp	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Other

Complete Streets Concepts

	Check Preference		
5. Main Avenue Road Diet	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Other
6. Two-Way Chancellor Square	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Other
7. 5th Street Pedestrian Underpass	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Other
8. 6th Street Capitol Cultural Trail	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Other

Comments

Please note comments below or use the back of this sheet:

Name (optional): _____

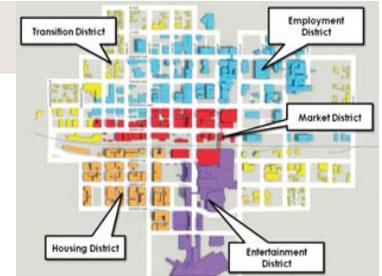
If you need additional time to respond, please return your comments through:

MAIL: 520 SW Yamhill, Roof Suite 4, Portland, OR 97204 WEB: www.DowntownBismarckStudy.com/public-meetings

Response Sheet Tally - Urban Design Concepts

1. District Concept

60 Yes **2** No **1** Other



2a. Green Space Framework- Depot Plaza

62 Yes **3** No **1** Other



2b. Green Space Framework- Mehus Commons

62 Yes **0** No **3** Other



3. Retail Concept

59 Yes **1** No **5** Other



4. 5th & Front Retail/Civic Center Parking Ramp

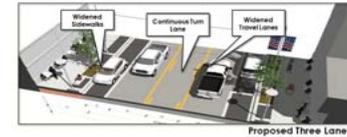
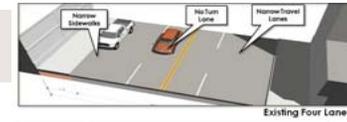
55 Yes **5** No **4** Other



Response Sheet Tally - Complete Streets Concepts

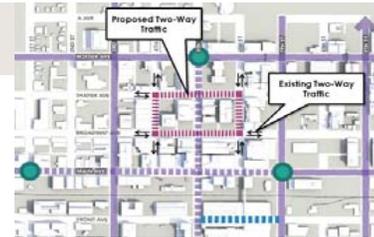
5. Main Avenue Road Diet

63 Yes **0** No **5** Other



6. Two-Way Chancellor Square

58 Yes **1** No **5** Other



7. 5th Street Pedestrian Underpass

54 Yes **4** No **7** Other



8. 6th Street Capitol Cultural Trail

51 Yes **2** No **8** Other



Response Sheet Comments

Below is a summary of the comments mentioned in the response sheets collected from the committees and stakeholder meetings, Public Workshop #2 and additional online submissions via the project web site. were added after June 14, 2013.

Comments are grouped under the over arching topics of Urban Design, Complete Street, Implementation and Other.

Urban Design Concepts

1. Steering, Technical and Stakeholder Meetings

- Assume the district concept allows some bleed-over of usages and is not exclusive in each district
- Will the district concept consider areas for youth (skate park/rink, basketball, tennis courts, etc)? Make theater? Rec Center? Pool?
- Like the Mehus Commons concept
- I think Burleigh mall alley should be pedestrian only
- 6th Street Ramp- why no retail on ground level?
- Concerned about taking away potential retail space at NE corner of 5th and Broadway
- Don't close Front Avenue; it is a truck route
- Is there another option for the 5th and Front parking ramp?

2. Public Meeting

- District concept needs to be clear that housing is incorporated throughout the districts
- Affordable housing measures!!
- Affordable housing— please consider for physical activity
- Need really affordable housing
- Residential access to downtown
- Housing: need availability of middle-income housing
- We see downtown growing to the west and north and lesser

emphasis to the south. How would the housing district tie into downtown since the natural barrier of the Front Avenue hill obstructs the line of site for the new residential district?

- The housing project would help urban sprawl to the country
- Wow! Love the Depot Plaza and many of the concepts
- Depot Plaza—too dangerous
- Plaza safety-2
- Where will people park for Fiesta Villa if the Depot Plaza is built?
- Belle Mehus square great!
- I like the emphasis on Mehus
- Not 100% sold on logistics of Mehus Commons but I like the idea
- Courthouse alley great (Burleigh Mall)
- Having everything spread out across Main & 5th is great; it needs to and should happen
- Retail needs to be established in west downtown not just Main Avenue and 5th Street
- Concern of weather- (for night-life district especially) maybe instead of strictly 'night life' it could be more mixed-use (retail on bottom and housing on top) or make it restaurant/bar (something that visitor's at the convention hotel can do and spend money)
- Concerned about retail concept and cold weather
- Please make architecture promote and respect historical and traditional themes (Retail concept)
- I love the idea of having an anchor downtown and to the mall
- Need a market downtown; Combo of 'farmer's market and coop grocery for other grocery essentials
- Arts corridor great!
- After civic center events- late
- The hotel is needed if the civic center gets used more

Response Sheet Comments

- I would love a GAP for retail
- I know what you mean by 'grandma-friendly' but wish you'd find another term; it implies that older women are particularly vulnerable
- Leave Front Avenue open and build ramp over the top—2

3. Online Submissions

- I would be concerned that parking ramps won't be constructed. Bismarck badly needs to use the empty space that has been left by the parking lots. There replaced beautiful and functional older buildings and it has been seriously detrimental to the downtown district in terms of getting around, aesthetics, weather protection (heat and cold!), businesses and I'm sure a host of other areas.
- Thank God someone has finally taken control
- I am very excited for these changes to occur. It will be great for Bismarck!
- I dont see districts in most downtowns, usually mixed use
- I think it's a smart and healthy use of our current under-utilized space in downtown Bismarck. I have been waiting for a plan like this for decades. It makes so much sense to me and most of my friends
- The idea for districts is an interesting one. Although, in my opinion, one of the appeals of a downtown is the random mix of uses. It gives a small tract of land a very heterogeneous mix which lends itself to unique spaces and architectural "surprises". By breaking the downtown into zones, you are creating a predictable pattern that mimics modern development in North Dakota. This takes away from the unique appeal that our states downtowns offer
- I'd like to see more green space in the plaza possibly
- I like it. Will the Market be year-round? It should!! I'm a market vendor and I sell baked goods. I would love to be able to do that year-round in Bismarck
- A Plaza would be a great place for families, friends and anyone crossing on west side of fiesta, too
- As long as the Civic Center area is connected and redesigned like the rest of the plan suggested, then this area would make a lot of sense as a plaza. I don't know how it would work with Fiesta Villa currently occupying that building, but I believe it makes a lot of sense, especially if you connect it to the other green zones, like the one in front of the Belle Mehus, and then use that to bring that same outdoor public space atmosphere into the rest of downtown Bismarck. Broadway needs some attention and thought, as well, so the Depot Plaza could be a nice center to develop out from. It makes sense to me only if the Belle Plaza and the Civic Center projects are also done along with it.
- Very exciting idea (Depot Plaza). Would really pull together the street and all the exciting new business along it
- I really like this (Depot Plaza). But you need to do something with that damn train backing up traffic during PEAK hours (like lunch time). Sometimes the train comes through and screws up the entire downtown area with backed up cars for nearly a mile during LUNCH TIME. Make the train go under the ground
- I LOVE it! (Depot Plaza)
- Very intelligent use of the Depot parking lot (Depot Plaza)
- Fantastic (Mehus Commons). Kokkler's Jewelers won't be happy though. More greenery! I think the overhead canopy suggestion for the courthouse walkway may be right for a warm-weather city, but since we get long, sever winters it would be nicer to have sculptural

Response Sheet Comments

art that serves to enhance the beauty and solemnity of a courthouse walk throughout the seasons

- I am very supportive of these ideas (Mehus Commons)
- This is essential in my opinion (Mehus Commons). And I like the idea of turning the Alley into a usable space, like the pedestrian street in some of the examples. But I go to the Belle Mehus often and it really does need a green or promenade in front of it. This is a part of Bismarck that is historic and needs to be highlighted
- The courthouse needs to be expanded, maybe more government building space. The Supreme Court has to rent office space from private companies because of a lack of space
- I really also liked the "sculpture alley" concept for the alley way in this block
- Great concept. I would be so happy to see Kokkellers, that eyesore of a building, come down and stop detracting from our downtown
- Really like this idea. I shop at Kokklers though :-)
- Retail Concept- YES, YES, YES!
- Yes to parking ramps and more buildings. Yes to compulsory under living. Promotions for "green buildings"? Encouraging block-center courtyards?
- Very supportive of this (Retail Concept)
- We could make a cool downtown this way (Retail Concept)
- Been waiting many years for the downtown of Bismarck to come to life. Great work!
- Need to clean up all the trashy and ratty looking parking lots and run

down businesses. Too many shifty looking people walk Fifth street to the mall

- I do like the idea of linking downtown to the mall through walkable retail. I also like the concept of linking the civic center to a hotel on the west side of 5th. I do wish you would update any plans around the civic center to include the currently proposed expansion. These planning exercises are worthwhile, but they need to be realistic and encompass projects that are already in motion
- Love it (Retail & Civic Ctr Parking Ramp). Would prefer to build parking ramp over 5th rather than removing street
- I love it (Retail & Civic Ctr Parking Ramp). I think that skywalks are essential here in ND and can only serve to encourage free movement in the downtown area. Enclosed parking facilities can only help keep the streets clean and clear and less cluttered. As it is now and has been for the last 30 or so years, we have been calling Bismarck "Parking Lot, USA". We've joked for years that you could address an letter Mr. and Mrs. John Doe, Parking Lot, ND, USA and it would arrive. Help!
- We need more sky bridges in this cold climate. It will help attract people to various activities and shopping all winter long
- More tie ins to central downtown
- It's about time this takes place for Bismarck! I'm SO happy about the Green Spaces/Public Squares. You have come up with ideas that I never would of dreamed of. I do however dream of a Museum in your proposed concept. Thank You for your open mind thinking. :)
- I will be moving to Bismarck in a month and am very excited to see possible changes on the horizon. Compared to other cities in the upper Midwest - even Fargo- Bismarck is not very pedestrian

Response Sheet Comments

friendly. I also think that Bismarck should pay more attention the young families and their need for activities.

- Restrictions on new offices, to have a nice look and retail floor
These plans are great! Also, I know that NDSU has moved many of its classes into downtown Fargo. I would like for Bismarck become more of a college town, maybe bringing some of it into downtown areas. BSC is not far from this area, couldn't they grow BSC energy programs in this downtown area? Just a thought. Thank you.

Complete Streets Concepts

1. Steering, Technical and Stakeholder Meetings

- Need more technical data to support the Road diet and Two-way Chancellor Square concepts
- The road diet is probably a good alternative to solve the issue where cars going straight have to wait for left turning cars; Any considerations for roundabouts for bustier intersections?
- As a retail store owner, who has a store on Main Avenue, I like the concept of wider sidewalks; I would like to see bike racks incorporated into sidewalk widening
- Not sure about the underpass
- Pass on Capitol cultural trail
- Don't know enough about the Capitol Cultural trail concept to comment in favor or not

2. Public Meeting

- Complete streets- a must! Increase access to and opportunities within Downtown
- Main concern is congestion during parallel parking
- Main Avenue diet would provide safer crosswalks for older people and wider sidewalks for newer landscape
- Please analyze opportunities to use planted medians in areas to slow traffic and allow

- Pedestrians to wait while crossing streets (retail concept and continuous turn lanes)
- Not sure two-way Chancellor square would make it any easier
- Underpasses are scary for women alone or with children; even with lighting, there are many places for people to hide; If there are crowds around when a person first enters an area, the thought of how secluded the underpass will feel as they exit may keep a woman from wanting to shop in the area.
- Capitol corridor to library and north
- Capitol to downtown access great
- Capitol cultural trail did not really draw me in Implementation

3. Online Submissions

- Please don't put in "bike" paths. We have a terrible time in the winter with the city not plowing the streets or simply throwing dirt/sand down (no salt). I work in an office building on 4th street, people are maniacs whizzing down the roads.
- I highly agree with the road diets. Consider 3-lane roadway on 5th Street with roundabout at 5th/Bowen. Consider roundabouts at all intersections where there is a traffic signal now. Need Quiet Rail now! Overall, these are good concepts and I applaud the city for doing this study
- Excellent. Love it. (Main Ave Road Diet)
- Great. (Main Ave Road Diet)
- Very supportive of this. (Main Ave Road Diet)
- Add nice trees that are columnar, to increase visibility while adding green. (Main Ave)
- The road diet is a great idea. It will make it safer for pedestrians as well as vehicles
- Needed. (Two-Way Chancellor Square)
- One way traffic is very confusing to out of towners. Should all be 2 way

Response Sheet Comments

- Yes, (Two-Way Chancellor Square) but the streets need to be completely re-done
- Absolutely! (5th Street Underpass)
- I'm somewhat ambivalent about the pedestrianized underpass. The snow and ice can be treacherous in ND and combined with a howling wind that tears through a tunnel, I wonder if it would become a dangerous no-go zone. It would have to be very well-lit and frequently cleaned. (5th Street Underpass)
- This is one of the best ideas to come from this entire meeting. (5th Street Underpass)
- Make the retaining wall less closing in, by angling it or making it slanted, so it doesn't feel so closed (5th Street Underpass)

Implementation

1. Steering, Technical and Stakeholder Meetings

- As you discussed at the beginning of your presentation, implementation is key. I like your concept and ideas, but implementation of some form of these concepts will be difficult. I await the time when concepts are further evaluated to see if they are implementable.
- Main Avenue, Depot plaza and pedestrian underpass are critical!

2. Public Meeting

- Main Avenue Road Diet should be first priority
- Priority is the complete streets! Multi-purpose trail next to the rail!
- Prioritize Depot Plaza, then Retail Concept, then Main Avenue road diet
- Removing historic building will be a big obstacle, can the buildings be incorporated?

3. Online Submissions

No submissions

Other

1. Steering, Technical and Stakeholder Meetings

- The city will be making repairs to infrastructures in the next several months— how do we address these maintenance needs when there could be 'big picture' changes in the next several weeks?
- I don't like the potential impacts to historic structures. Has this been taken into consideration? Has redevelopment of these structures been part of your concept instead of building new?

2. Public Meeting

- Plan reflects my values and vision: public space, bikeways, walking space, green space
- Many excellent ideas
- This revitalization program would greatly encourage a sense of community; it would prevent some of the urban sprawl; we would be the envy of other cities
- Strategic plan for the future! I love it and we don't have enough
- This type of project would be a destination for downtown Bismarck
- Need to do a lot of communication/education
- Need to overhaul total bus routes
- Beef up transit
- Tie Capitol to ramps downtown via transit
- I want public transit and energy efficiency to be a major criteria/goal for all phases
- More skywalks to connect major buildings for the cold months
- I would like to see a section of downtown (at least one street) with NO cars; outdoor restaurants do not fit with cars!
- Bring BAGA, street art, both State and City libraries into greater focus in the plan
- As we implement the plan, I'd like us to build on the deco

Response Sheet Comments

architecture of the Capitol and carry it through as a theme on new elements like signage, buildings, the underpass, etc

- Include ice skating rink!-2
- Have snow removal sites and design for function
- Very little mention of 'west-side' downtown development is detailed- this must be addressed!
- The city MUST change its snow removal and clearing of sidewalks for this to happen successfully
- The public library is a major gathering place; can the plan extend to include it?
- What about controlled commercial signage and more harmonious building fronts?

3. Online Submissions

- I loved every idea. You guys have just nailed it! Everything I saw here is everything I have been wishing and wanting for Bismarck for a long time
- I've seen city-center revitalisations happen in other countries where an economic boom is taking place. I have also seen them fail miserably and although beautiful to look at, they remain empty. The nice thing about this plan is that it is taking an existing area of interest, one that used to be vibrant and attractive to local residents and making it the place to go once again. Bismarck became fragmented because of poor planning, badly placed shopping centers and too many open spaces. The old mentality was to tear down buildings, chop down trees and make room for so-called practical things like parking lots, to move forward no matter the direction and no matter the cost to the town residents. The old downtown had "anchor stores" mixed in with small family-run bakeries, small shops, jewelers and grocery stores to keep the center active and a place with amenities. We have plenty of the

large-scale grocery stores now, but there is room for specialty shops, restaurants, cafes, etc. and this plan supports the return of those kinds of services to the downtown area. I sincerely hope that this plan goes through, but I have my doubts. My family have lived in the downtown area since 1976 and we've seen the destruction and irreversible damage done to many beautiful houses and buildings. We're all glad that this plan is being formed and see it as a realistic course of action. The greater public reaction to this remains to unfold and there will be factions who will protest it mightily, preferring that unorganised expansion continue until Bismarck breaks into three or four completely separate and decentralised burroughs, without a cohesive connection between them. One can hope. Good luck and you have my full support.

- I have been to Seattle, Portland, Vancouver WA, Missoula, and others and always said, why can't Bismarck do this? If you can get corporate to kick in the majority it would be a big yes
- This is an amazing concept that will turn a drab downtown into a modern, cultural asset. Let's do this!

Table Reports

Below is a summary of the comments presented by members of each table during Public Workshop #2.

TABLE 1

- Unanimously excited
- Agreed with pedestrian/bike focus and green spaces
- Issue with flooding for residential zone
- Support road diet on Main Avenue
- Underpass good way to bridge gap north/south
- Concern use of plaza 300 times a year
- Would like more info on Public Market; indoor with outdoor feel

TABLE 2

- Not enough off-street parking in downtown; don't eliminate parking in Fiesta Villa
- Three lane traffic is ten times better than four lanes; add angle parking
- We like outside elevators on garage
- Chancellor Square biggest bottleneck in Bismarck! Put Two-way traffic back
- The State of ND is #1 with a property tax reduction! You can't lose a nickel here!

TABLE 3

- Do you have history with educating or selling the idea that we can walk and experience downtown like we do when we travel?
- We all need info to digest!

TABLE 4

- Loved the concepts- support an ice skating rink
- Keep in mind the culture of the area for plaza (not too modern, build off history)
- There is a need for affordable and medium-income housing
- In terms of public health we like the access plan for pedestrians
- Good idea connecting Mall/Civic Center to Downtown

TABLE 5

- We unanimously agree with Main Avenue road diet
- Support the underpass! Important
- It is time for two-way on Chancellor Square; Glad to see street tree and landscape improvements
- Plaza is a game changer: no doubt!
- Mehus Commons is also very important
- Implementation: should include the private investment that goes in concert with parking improvements

TABLE 6

- In process of Civic Center Exhibit Hall; the roof top of Exhibit Hall will be useable outdoor gathering space

TABLE 7

- Main Avenue congestion will be helped
- Expand pedestrian area to Library and north
- Worried about Plaza safety
- After events dealing with congestion and getting folks out of downtown quickly

TABLE 8

- Enjoyed whole plan; I grew up here and we haven't had a plan
- Our concern is the weather: long cold winters; spread down 5th with retail/restaurants
- Can we get covered walkways? Design for our climate

PRELIMINARY TRAFFIC OPERATIONS REVIEW MEMO



Memorandum

SRF No. 8022

To: Jason Graf, Associate Principal
Crandall Arambula PC

From: Matthew Pacyna, PE, Associate

Date: May 1, 2013

Subject: Downtown Bismarck Subarea Study - Tr

Introduction

As part of the Downtown Bismarck Subarea Study, several concepts were developed to help revitalize the downtown core and provide a framework for redevelopment. To help revitalize the area, it is important to consider the existing transportation infrastructure, which can have a significant impact to the perception associated with a downtown area. Therefore, SRF was tasked with reviewing concepts developed as part of this study from a transportation perspective to help identify any potential issues, improve connectivity for all modes of travel, and provide recommendations to maintain and/or enhance parking, operations, and safety. It should be noted that the draft project goals that mostly pertain to the transportation review include the following:

- Create a pedestrian-friendly and walkable downtown
- Develop a parking strategy that maximizes existing and future ramps to best serve downtown
- Introduce more greenery into downtown streets
- Encourage biking downtown
- Improve traffic access in and out of downtown
- Develop a downtown multi-modal transit hub
- Improve the linkage between downtown, the Civic Center, and Kirkwood Mall
- Convert Chancellor Square to two-way
- Locate a downtown trolley route

Based on discussions with project staff regarding the initial concepts developed, the following specific improvements were considered as part of this review:

- Road diets along 5th Avenue and Main Avenue (reduction of roadway capacity to three-lanes)
- Closure of Front Avenue (from 5th Street to 7th Street)
- Conversion of Chancellor Square from one-way to two-way operations
- Civic Center Parking Ramp Location

It should be noted that these concepts were reviewed independent of one another, when possible, to help quantify impacts associated with each improvement.

Existing Conditions

To establish a baseline condition in which the impact of the concepts developed can be compared, existing traffic volumes, roadway characteristics, and capacity were reviewed. The following information provides an overview of the existing conditions within the downtown subarea:

- Existing (year 2012) Average Daily Traffic (ADT) volumes provided by NDDOT were collected and summarized in Figure 1.
- The existing roadways within the subarea were categorized into the one of the four roadway types:
 - 2-lane roadway (no turn lanes)
 - 3-lane roadway/2-lane roadway with turn lanes
 - 4-lane roadway (no turn lanes)
 - 5-lane roadway/4-lane roadway with turn lanes
- Initial review of the existing roadway network (illustrated in Figure 2) indicates there does not appear to be a consistent roadway network within the downtown core (i.e. several roadways have varying cross-sections).
- For each of these roadway types, the typical planning-level ADT capacity ranges and the approaching capacity ADT volumes are shown in Table 1.
 - These volume ranges are based upon guidance from the Highway Capacity Manual and professional engineering judgment.
 - This information will be used as a guide to help identify roadway capacity impacts associated with the proposed concepts.

Table 1
Planning-Level Roadway Capacities by Facility Type

Facility Type	Daily Capacity Ranges (ADT)	Approaching Capacity (85% of ADT) ⁽¹⁾
Two-lane undivided urban	8,000 - 10,000	8,500
Three-lane undivided urban ⁽²⁾ (two-lane divided with turn lanes)	15,000 - 17,000	14,450
Four-lane undivided urban	18,000 - 22,000	18,700
Five-lane undivided urban ⁽²⁾ (four-lane divided with turn lanes)	28,000 - 32,000	27,200

⁽¹⁾ Values based on the upper limit of daily capacity range

⁽²⁾ The lower value of the daily capacity range is applied to the undivided section; the upper value of the daily capacity range is applied to the divided section.

- Comparing the existing ADT volumes with the capacity ranges in Table 1, all of the existing roadways within the study area have adequate capacity.



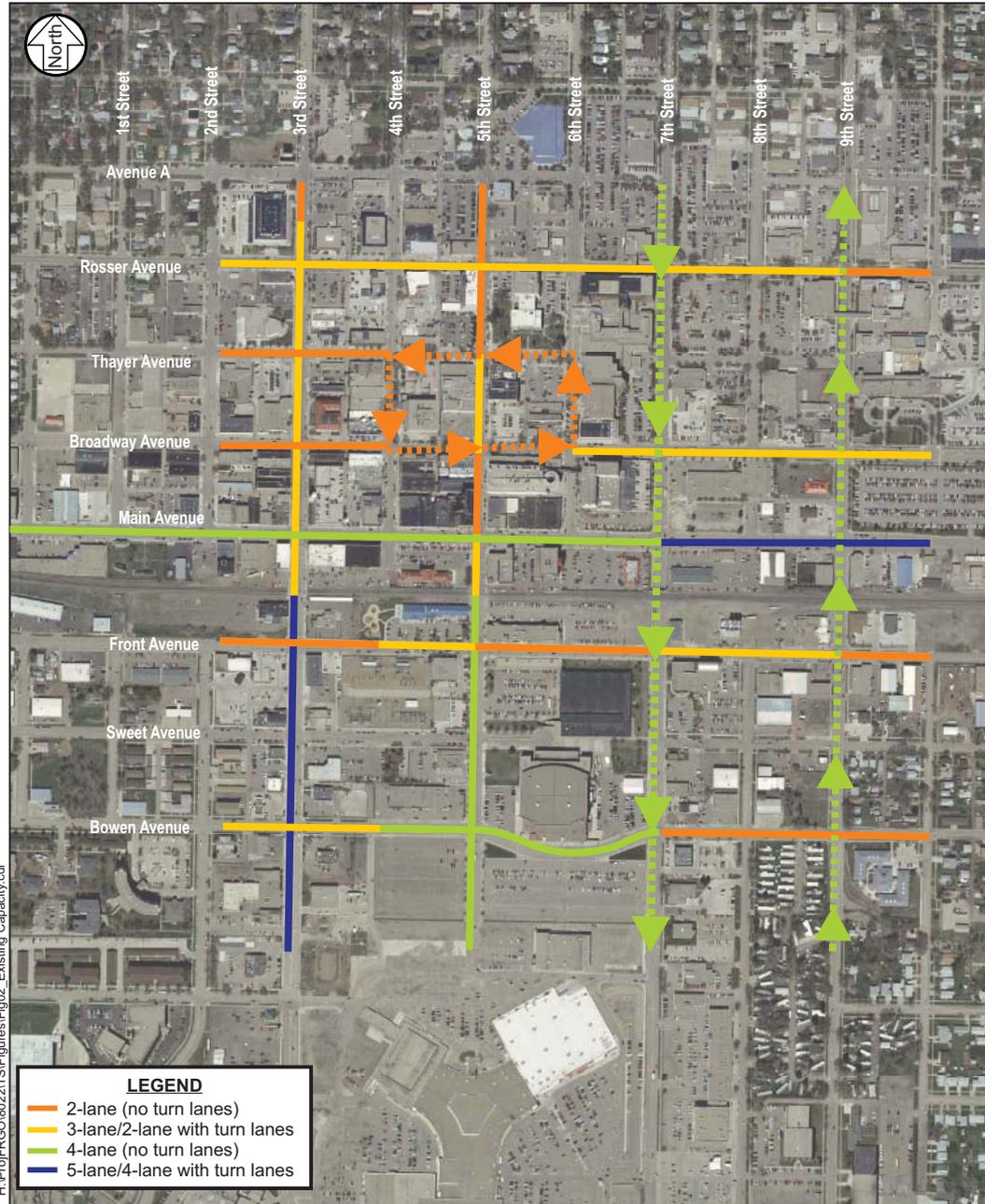
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Existing (Year 2012) Average Daily Traffic Volumes
 Bismarck Downtown Area Transportation Study
 Bismarck, North Dakota

Figure 1

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Existing Roadway Network
 Bismarck Downtown Area Transportation Study
 Bismarck, North Dakota

0138022
 May 2013

Figure 2

Concept Review

As previously mentioned, SRF was tasked with reviewing the concepts developed from a planning level traffic operations perspective. Therefore, the following information provides a summary of the proposed concepts, their impacts, and potential improvements to consider. The approximate location of the improvement concepts are illustrated in Figure 3.

5th Street Road Diet

Currently, 5th Street from the Kirkwood Mall to Front Avenue is a four-lane roadway with no turn lanes. However 5th Street north of Front Avenue is a two-lane roadway with turn lanes only at Main Avenue and Thayer Avenue. To reduce vehicular speeds, promote pedestrian activity, and create a “downtown center”, the subarea study proposed to convert 5th Street to a two-lane roadway with turn lanes and a landscaped median, if possible. The following information provides a summary of the impacts of this proposed change.

- The existing ADT volume along 5th Street ranges from 3,000 to 4,000 vehicles per day (vpd).
 - No volume diversion is expected due to the proposed modification of 5th Street.
- There is sufficient capacity to convert 5th Street to a three-lane facility (or a two-lane facility with turn lanes and a landscaped median) based on the current traffic volumes and the capacity ranges identified in Table 1.
 - The ADT volumes indicate a two-lane roadway without turn lanes would also likely provide adequate capacity and reduce pedestrian crossing distances.
- It is important to ensure adequate capacity at the Main Avenue/5th Street and 5th Street/Front Avenue intersections to prevent queues from extending to the railroad tracks.
 - To reduce potential impacts, dedicated turn lanes (i.e. left, through and right) and/or use of a signal preemption system to clear any queues prior to a train arrival should be considered.

Main Avenue Road Diet

Main Avenue from 1st Street to 7th Street is a four-lane undivided roadway with only select right turn lanes and no dedicated left-turn lanes. There are several private driveways/access locations within this segment, which also impact the capacity and traffic flow. To reduce vehicular speeds, promote pedestrian activity, and create a “downtown center”, the subarea study proposed to convert Main Avenue to a three-lane roadway from 1st Street to 6th Street. The following information provides a summary of the impacts of this proposed change.

- The existing ADT volume along Main Avenue range from 7,000 vpd to 13,000 vpd.
 - Although a four-lane undivided roadway can easily handle this daily volume, it is beginning to approach the capacity of a three-lane roadway in certain segments.
- If the conversion to a three-lane roadway is constructed, existing motorists along Main Avenue are expected to divert to other routes
 - The motorists that are expected to divert due to increased delays (associated with the three lane conversion) would primarily be “through” type trips, which are currently using Main Avenue.
 - This diversion is expected to create some additional capacity for downtown destination type trips.



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Improvement Concepts
 Bismarck Downtown Area Transportation Study
 Bismarck, North Dakota

Figure 3

- The roadways that are most likely to be impacted by any diversion from Main Avenue would be Front Avenue and Rosser Avenue.
 - To aide this diversion, improvements should be considered at various locations to help make a smooth transition (i.e. reduce delays on the preferred diversion routes).
 - These improvements include turn lanes, traffic controls (i.e. protective left-turn phases), grade separations, and wayfinding.
- Due to the amount of driveways/access locations along Main Avenue in the downtown area, it is recommended that the three-lane roadway section begin west of Washington Street and closer to Rosser Avenue, if possible.
 - This will help create a gateway into the downtown area and may help divert “through” trips to alternative routes.
 - The continuous two-way left-turn lane (TWLTL) will also reduce conflicts with respect to the access along Main Avenue.
 - As redevelopment occurs, access consolidation and/or closures should be considered.
- The three-lane facility along Main Avenue is recommended to end at 7th Street.
 - A second eastbound through lane along Main Avenue should be developed east of 6th Street, while the westbound through lane at 7th Street should trap into a westbound left turn lane.
 - A potential additional improvement is to construct dual westbound left-turn lanes at 7th Street to encourage “through” vehicles to use alternative routes other than Main Avenue.

Closure of Front Avenue

As part of the subarea study, there is the potential for a Civic Center Expansion and associated parking ramp. Although the exact location of the parking ramp is not determined, there are two potential parking ramp location options (see Figure 3), both of which would close a portion of Front Avenue between 5th Street and 7th Street. Currently, Front Avenue is a two-lane roadway with select turn lanes within the study area and is used as a parallel reliever to Main Avenue (from the Missouri River to 9th Street/12th Street). The following information provides a summary of the impacts of this proposed change.

- The existing ADT volume along Front Avenue is approximately 5,000 vpd.
- Closing this section of Front Avenue will likely cause diversion to other parallel routes, including Main Avenue, Bowen Avenue, and Rosser Avenue.
 - Main Avenue would be the most likely diversion route as it is the closest parallel route. (However, if converted to a three lane facility, Main Avenue would already be approaching capacity prior to any diversion and is unlikely to be able to handle any additional traffic.)
- Therefore, if Front Avenue were closed, Bowen Avenue and Rosser Avenue would need to be improved to make them more attractive routes to motorists, including additional improvements along 3rd Street, 7th Street, and 9th Street.
- Ideally, the location of the potential parking ramp would be designed and located so that closure of Front Avenue would not be necessary.
 - This type of design has the potential to be a good transit hub location, serving downtown and the Civic Center.

If the closure of Front Avenue is desired, the following additional information with respect to Rosser Avenue and Bowen Avenue should be considered. It should be noted that these types of improvements could be implemented regardless of any closure along Front Avenue.

Rosser Avenue

- Rosser Avenue is a three-lane roadway from 2nd Street to 7th Street and a two-lane roadway to the west and east of 2nd Street and 7th Street, respectively.
- Similar to Main Avenue, there is a significant amount of private driveways/access locations along Rosser Avenue.
 - Conversion of Rosser Avenue to a three-lane facility from Main Avenue to 9th Street is expected to improve traffic flow, reduce potential conflicts, and provide continuity, but may also negatively impact on-street parking in some segments.

Bowen Avenue

- Bowen Avenue is a four-lane roadway from 5th Street to 7th Street and a two-lane roadway to the west and east of 5th Street and 7th Street, respectively.
- Existing ADT volumes along Bowen Avenue range from approximately 3,000 vpd to 4,000 vpd.
- If a portion of Front Avenue were closed and additional volume diverted to Bowen Avenue, a three-lane roadway would still be expected to accommodate area volumes.
 - However, depending on event traffic at the Civic Center, it may make more sense to convert Bowen Avenue to a four-lane roadway between 3rd Street and 9th Avenue.
- Regardless if Bowen Avenue is converted to a three-lane or four-lane roadway, the roadway section should be consistent to provide continuity.
- Additional turn lane and traffic control improvements (i.e. protected left-turn signal phases and traffic control changes) should be considered to further encourage motorists to utilize Bowen Avenue as an alternative route.

Chancellor Square (One-Way to Two-Way Conversion)

Chancellor Square encompasses a two block area bounded by Broadway Avenue to the South, Thayer Avenue to the north, 4th Street to the west, and 6th Street to the east. Currently, traffic flows around these two blocks in a one-way counter-clockwise direction. The roadways that make up Chancellor Square are all two-way roadways throughout the rest of the study area with on-street parking. The proposed concept is to eliminate the one-way operations and convert the roadways to two-way operations. The following information provides a summary of the impacts of this proposed change.

- The Chancellor Square conversion is not necessarily an operational issue as the ADT volumes range from 1,000 vpd to 2,000 vpd and can be easily accommodated with a two-lane roadway section.
- The current one-way operation limits the volume that may otherwise use Broadway Avenue and Thayer Avenue as east/west routes, which in turn directs more traffic to Main Avenue and/or Rosser Avenue.
 - The conversion to two-way operations has the potential to provide some diversion from Main Avenue.

- Two-way operations provide circulation benefits and make it easier to find your destination.
- Based on parking utilization surveys performed for the Downtown Bismarck Parking Study (2008) the area surrounding Chancellor Square is the most utilized parking area downtown (about 80 percent utilized).
 - The conversion to two-way operations is expected to significantly reduce the available onstreet parking, resulting in the need for additional parking to be considered.

Recommended Roadway Network

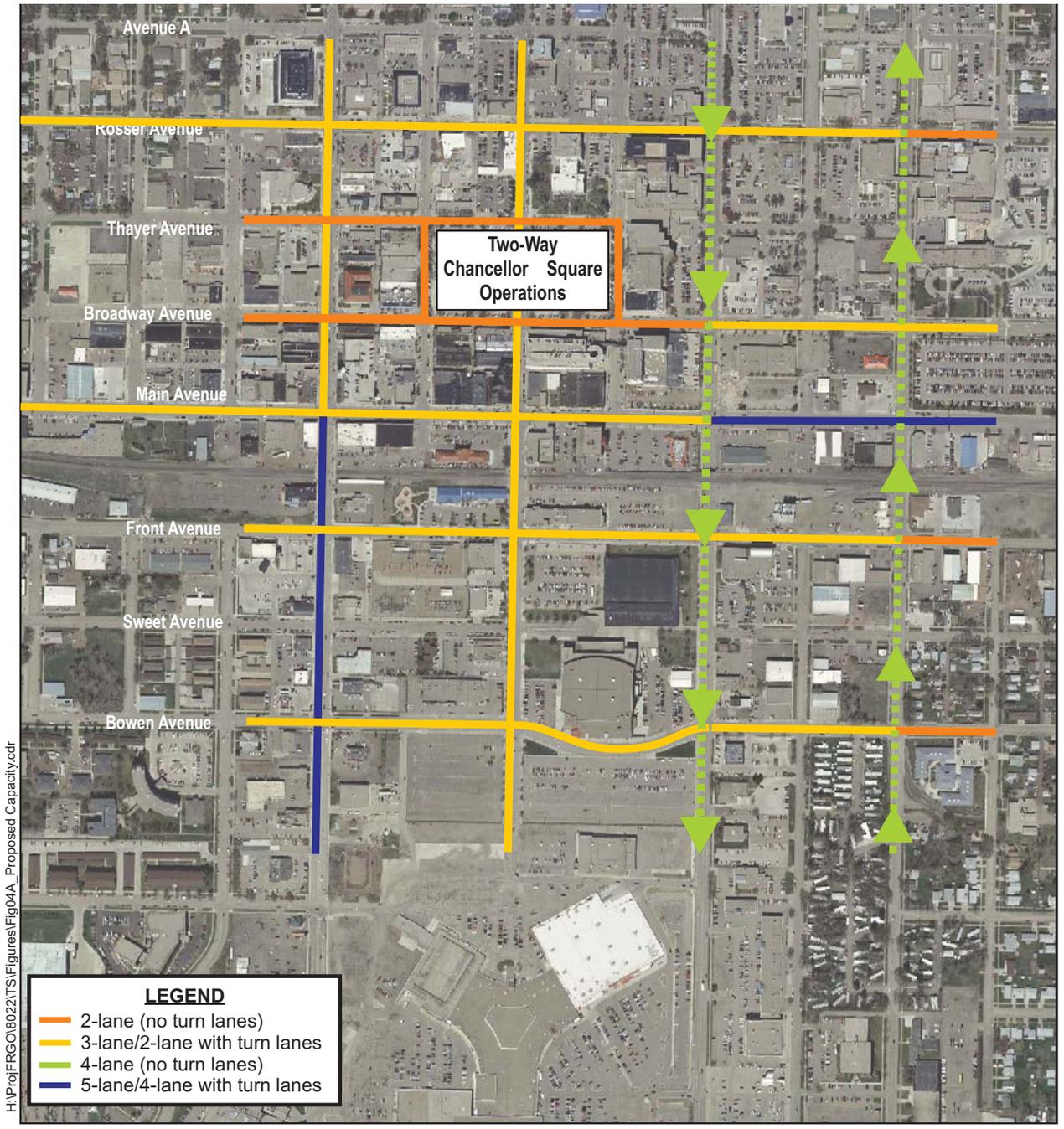
As previously mentioned, several study area roadways have varying cross-sections and there is not a consistent roadway network in the downtown area. Therefore, to provide more continuity and improve traffic flow within and around the study area, a recommended roadway network was developed from a capacity/cross-section perspective. Two recommended roadway network alternatives were developed due to the potential closure of Front Avenue to accommodate a parking ramp. Alternative A and Alternative B represent the roadway network with and without the Front Avenue connection, respectively. The recommended roadway networks, along with the corresponding capacity/cross-section are illustrated in Figure 4A and Figure 4B.

Potential Improvements

In addition to the recommended roadway network alternatives, several other turn lane, traffic control, and miscellaneous improvements were identified. These improvements are for discussion purposes and are considered preliminary. The intent of the majority of these improvements is to improve access to an alternative east/west corridor and help divert “through” traffic away from Main Avenue. The following information summarizes the potential improvements to be considered:

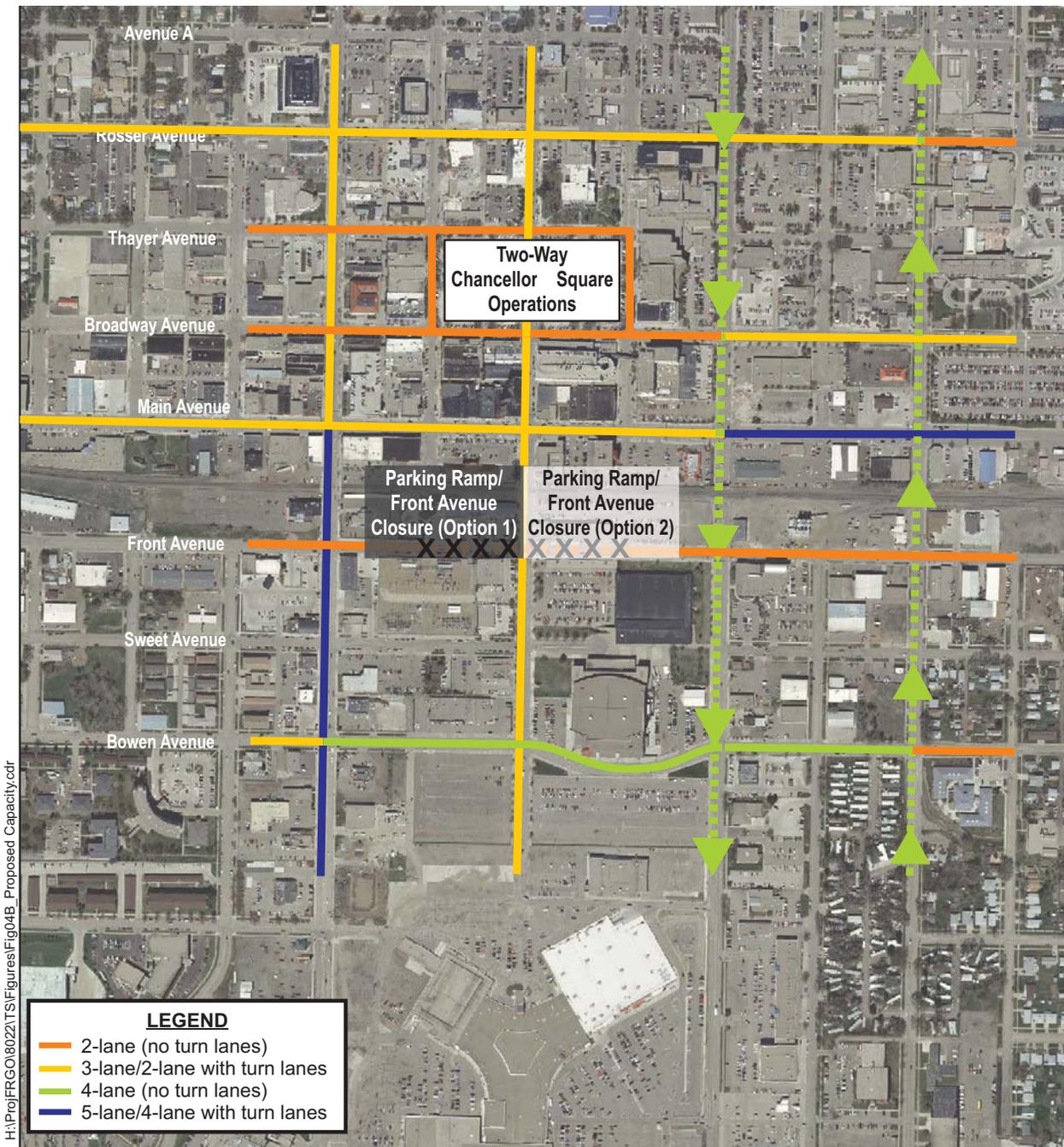
- Develop an eastbound off-ramp from Main Avenue to Washington Street.
- Install an eastbound right-turn lane at the Main Avenue/3rd Street intersection.
 - The specific design could be a typical right-turn lane or be a channelized right-turn lane that could feed into its own lane (i.e. a free right-turn movement).
- Install dual southbound left-turn lanes off Main Avenue to 7th Street
- Construct a grade-separation along 3rd Street and the railroad crossing.
- Install protected-permitted left-turn phasing/traffic control improvements at key locations within the downtown area.
 - It should be noted that the locations of the left-turn phasing/traffic control improvements are dependent on whether Front Avenue is modified.

Once again, two potential improvement alternatives were developed due to the potential closure of Front Avenue to accommodate a parking ramp. Alternative A and Alternative B represent the potential improvements with and without the Front Avenue connection, respectively. The potential turn-lane, traffic control, and miscellaneous improvements for discussion are illustrated in Figure 5A and Figure 5B.



Recommended Roadway Network - Alternative A
 Bismarck Downtown Area Transportation Study
 Bismarck, North Dakota

Figure 4A

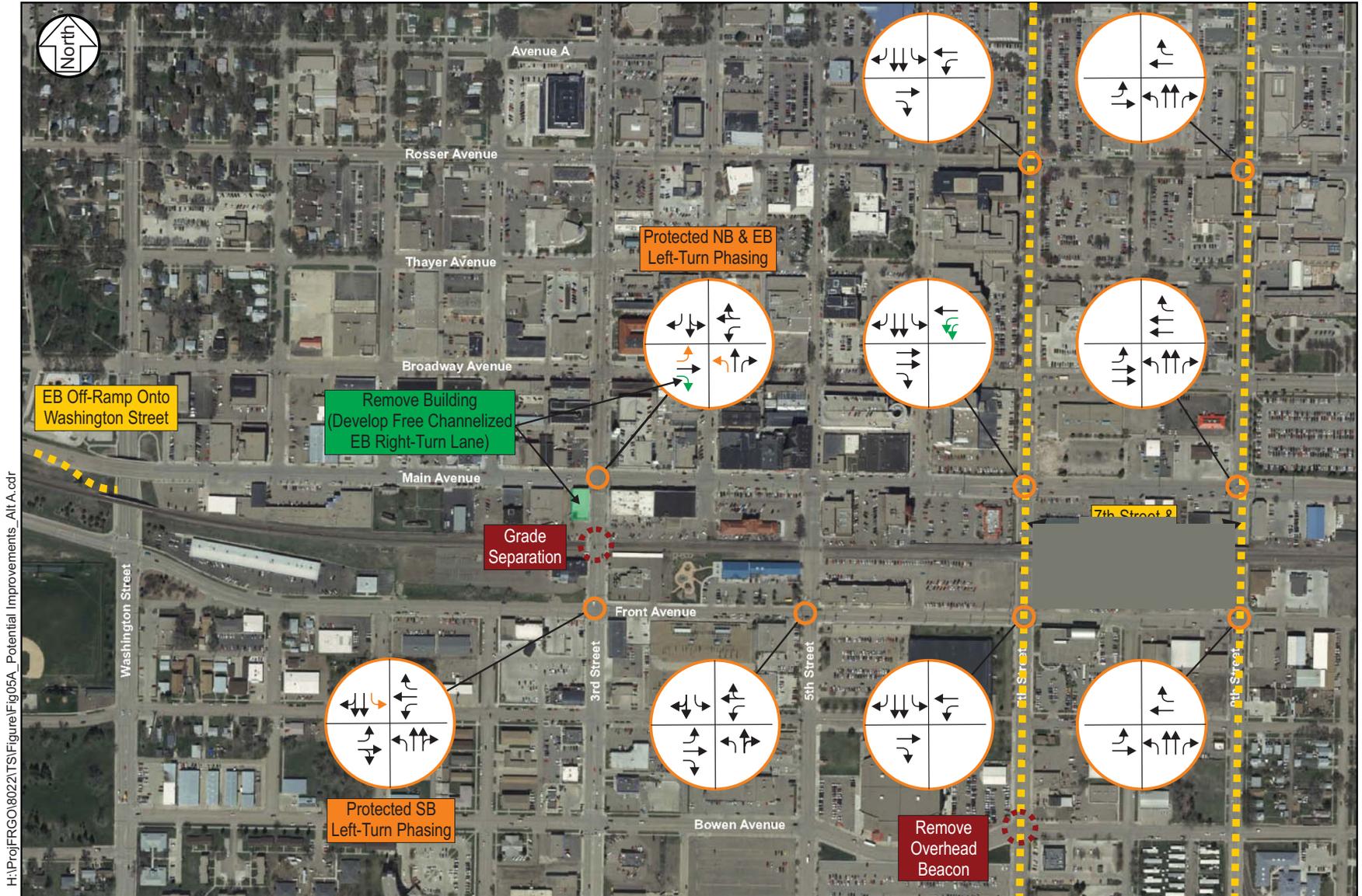


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Recommended Roadway Network - Alternative B
 Bismarck Downtown Area Transportation Study
 Bismarck, North Dakota

Figure 4B



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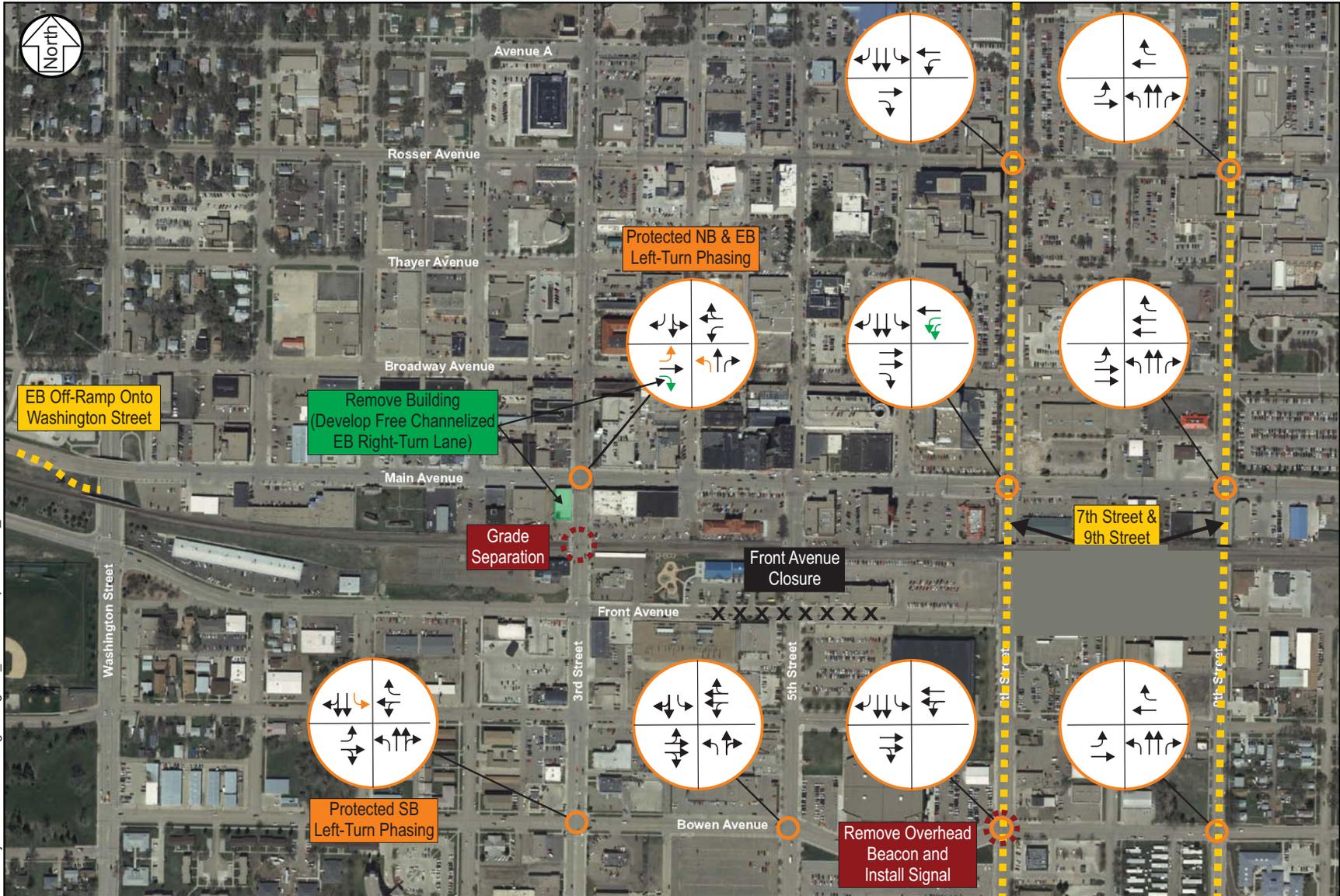
Potential Improvements - Alternative A

Downtown Bismarck Subarea Study
Bismarck, North Dakota

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May 2013

Figure 5A

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Potential Improvements - Alternative B

Downtown Bismarck Subarea Study
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Figure 5B

BISMARCK DOWNTOWN TRANSIT CENTER: PROGRAM CONCEPT, LOCATION AND SITE ALTERNATIVES

This memo provides information regarding preliminary transit center locations being considered as part of this study. Based on the existing service and proposed service plan, a single downtown transit center is recommended for CAT operations. Three additional key transfer points will be located in downtown Mandan, in the northern part of Bismarck (vicinity of Gateway Mall), and a single intermodal transfer at the current Bis-Man Transit/CAT facility (allowing access to intercity coaches).

DOWNTOWN TRANSIT CENTER

Ultimately, the objective of a downtown transit center in Bismarck will be to elevate the visibility of transit, and improve the experience of being a transit user. It will allow for timed connections among routes, offer a comfortable passenger facility, allow CAT service to be expanded, and promote development and activity in downtown Bismarck. When transit centers have been developed in central urban locations adjacent to key activity centers and shopping areas, they have provided a steady stream of patrons to local businesses while people wait for buses and transfer between buses. In theory, a new transit center should:

- Have space to accommodate the next 20 years of growth.
- Have adequate boarding/alighting space, layover space and circulation space to ensure smooth operations.
- Provide safe and convenient access for pedestrians and bicyclists.
- Provide a pleasant atmosphere for passengers.
- Meet the needs of bus drivers (including driver amenities such as a restrooms and break room).
- Provide an operations outpost for the transit agency, allowing CAT riders to collect information about the service and talk with a customer service representative.

Basic Program

Crandall Arambula's downtown concept is for an off-street facility to be developed in one of six current parking lots/undeveloped lots. Nelson\Nygaard and Crandall Arambula staff met with representatives from the MPO, Bis-Man Transit and the City Engineer to discuss a preliminary approach to transit center layout and programs. Based on the discussion, the following program is proposed for a new facility in downtown Bismarck:

- Space for nine full-size (30-40 feet) buses to be shared by CAT and other regional providers that opt to drop off or pick up passengers in downtown Bismarck.
- A building that will house (1) an indoor waiting area for passengers with room for seating and an information kiosk, (2) an information desk/work space for two people, (3) a driver restroom, (4) a small break room (to accommodate eight people at a table), (5) a small storage closet, and (6) public restrooms. A vending machine could be outdoors or indoors. Based on these basic requirements, the consulting team assumes a 1,000-square foot building.
- 2-3 auto parking spaces near the building that can be used by CAT/Bis-Man Transit (not public parking).
- Space on-site or off-site for up to two taxis.
- A center island and sawtooth bus bays.
- Bus shelters and benches for each bus bay (and possibly a canopy over the entire site).

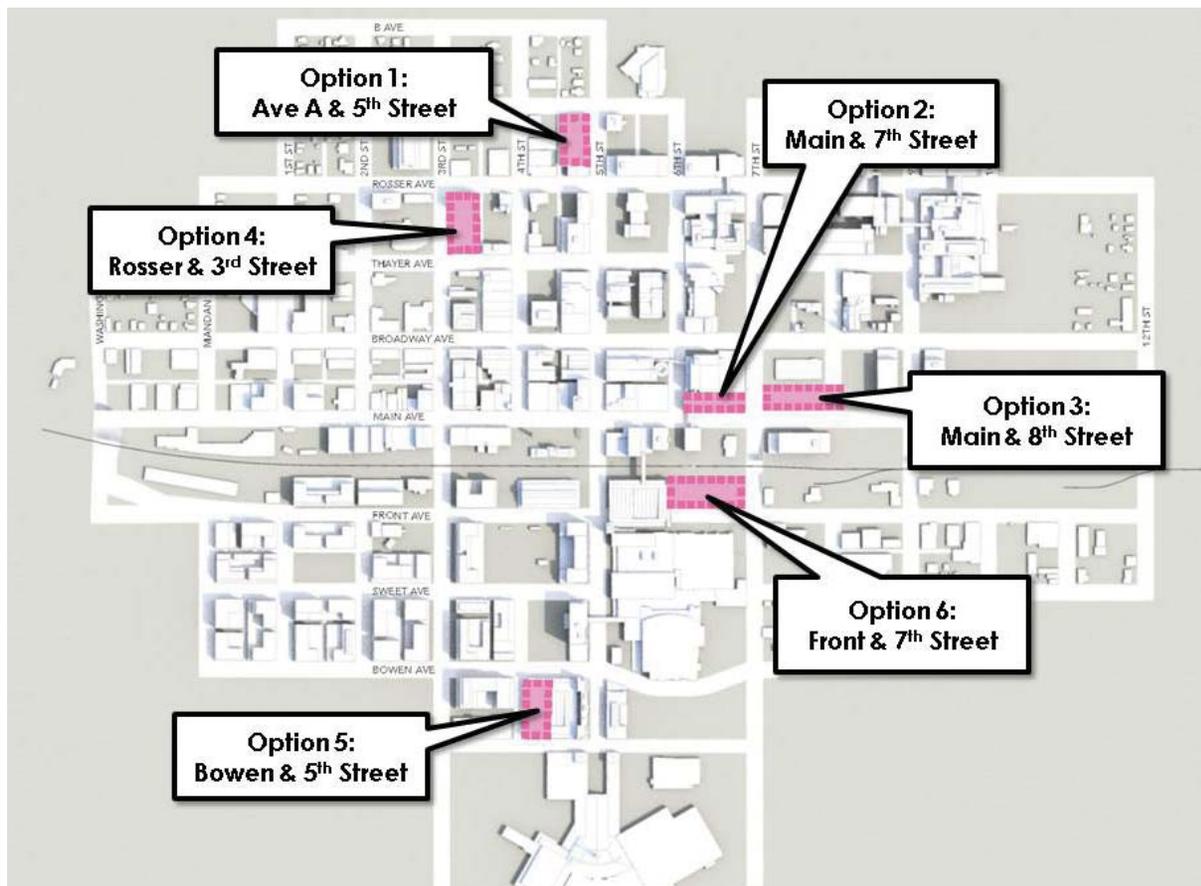
In addition, an array of other modest amenities might be included such as a public telephone, an information kiosk (system map, bus information), bus stop signage, bicycle racks and/or lockers, outdoor lighting, garbage cans/recycling, clocks/real-time arrival bus information, public art, and security cameras.

Potential Locations

Six potential sites in and around downtown Bismarck were selected by Crandall Arambula. These sites are as follows and are illustrated in Figure 1:

- Option 1 – Avenue A at 5th Street (412 N 5th St.), under a new parking ramp. By moving the access to the ramp to the south end of the site, the site can accommodate an island configuration. As a result of the ramp above, this facility would accommodate eight bays for CAT buses on-site, and one larger bay for non-CAT buses on 5th Street (See Figure 2). The 0.8-acre property is assessed at \$105,800, or \$2.99 per square foot and is owned by Burleigh County. It is possible this land could be purchased from the county, or traded for a comparable City-owned site elsewhere in Bismarck. Likewise, it is possible that portions of this property along 4th Street could also be incorporated into the site to make it larger, allowing for more buses to be accommodated off street.
- Option 2 – Main Avenue between 6th Street and 7th Street (630 Main Av., South of Radisson and existing ramp). This site is the somewhat constrained physically, but is in the most central location and would showcase a commitment to transit by the City of Bismarck. The proposed site design is a mix of on- and off-street bus bays, allowing for a center island configuration (See Figure 3). One of the primary advantages of this .6-acre site is that it is owned by the City of Bismarck and would therefore potentially be easy to acquire for a transit facility.
- Option 3 – Main Avenue between 7th and 8th Street (700 Main Av.). This site allows plenty of room for a plaza, a row of pavilions, or a garden that can offer “eyes on the street”. The conceptual design assumes that 8th Street is reopened to the north, allowing for access to Broadway. The site assumes an on-street taxi stand, but taxis could easily be accommodated on-site if desired by CAT (See Figure 4). This 1.03-acre site is assessed at \$313,800, or \$6.97 per square foot, making it the second-most costly site to acquire. Based on subsequent discussions between the land owner and project team, this site may not be available for acquisition due to plans to create a mixed-use office and housing development.
- Option 4 – ½ Block bounded by 3rd Street, Rosser Avenue and Thayer Avenue (311 N. 3rd St., 309 N 3rd St., 307 N. 3rd St., 302 Thayer Av., and 308 Thayer Av.). This site is large enough to offer a fairly straightforward island configuration, with the conceptual design offering two options for a taxi stand (See Figure 5). Although fully ½ of the site is publicly owned by the City of Bismarck, the .96-acre site would be very costly to acquire because several existing structures and businesses on the other ½ of the site. Combining all of the values of the parcels that comprise the site, the land is assessed at \$1,129,400, or \$26.89 per square foot (\$53.78 per square foot if only the privately owned lots/structures are used in the calculation).
- Option 5 – Between Bowen and Kirkwood Mall, west of 5th Street (portion of site at 410 S. 5th St.). This is a large site with flexibility to accommodate the program, depending on how the retail corridor along 5th Street is ultimately built. Based on a preliminary site development concept, the transit facility conceptual design assumes a parking ramp would be constructed on the site (assuming columns on 60’ centers, which is a double-loaded parking bay) and the transit center would be under about ½ of it. A facility/pavilion could be attached to the ramp. For purposes of this conceptual design, a new street at the south end of the site is presumed to be one-way eastbound, but the configuration could be two-way if necessary (See Figure 6). One of the primary advantages of this 3.02-acre site (approximately 1.2 acres as configured for the transit center) is that it is owned by the City of Bismarck and would therefore potentially be easy to acquire to use as a transit facility.
- Option 6 – At the corner of Front Avenue and 7th Street, south of the rail lines and adjacent to a future parking ramp. This is a large site, equivalent to approximately one half of a full city block. The site is owned by the City of Bismarck and would therefore potentially be easy to acquire to use as a transit facility. The complete lot is approximately 2.25 acres. Advantages of this site include its proximity to the Civic Center, being only one block from the planned Fifth Street development corridor, and adjacency to rail, which could offer future multi-modal passenger service, although no plans currently exist. The site is also bordered by a rail trail. Obstacles for this site include restricted pedestrian access for people with origins or destinations in downtown Bismarck (they must use below-grade crossings on 7th Street or 5th Street) and limited access for buses. The site would only be accessed via a single entrance/exit on Front Avenue.

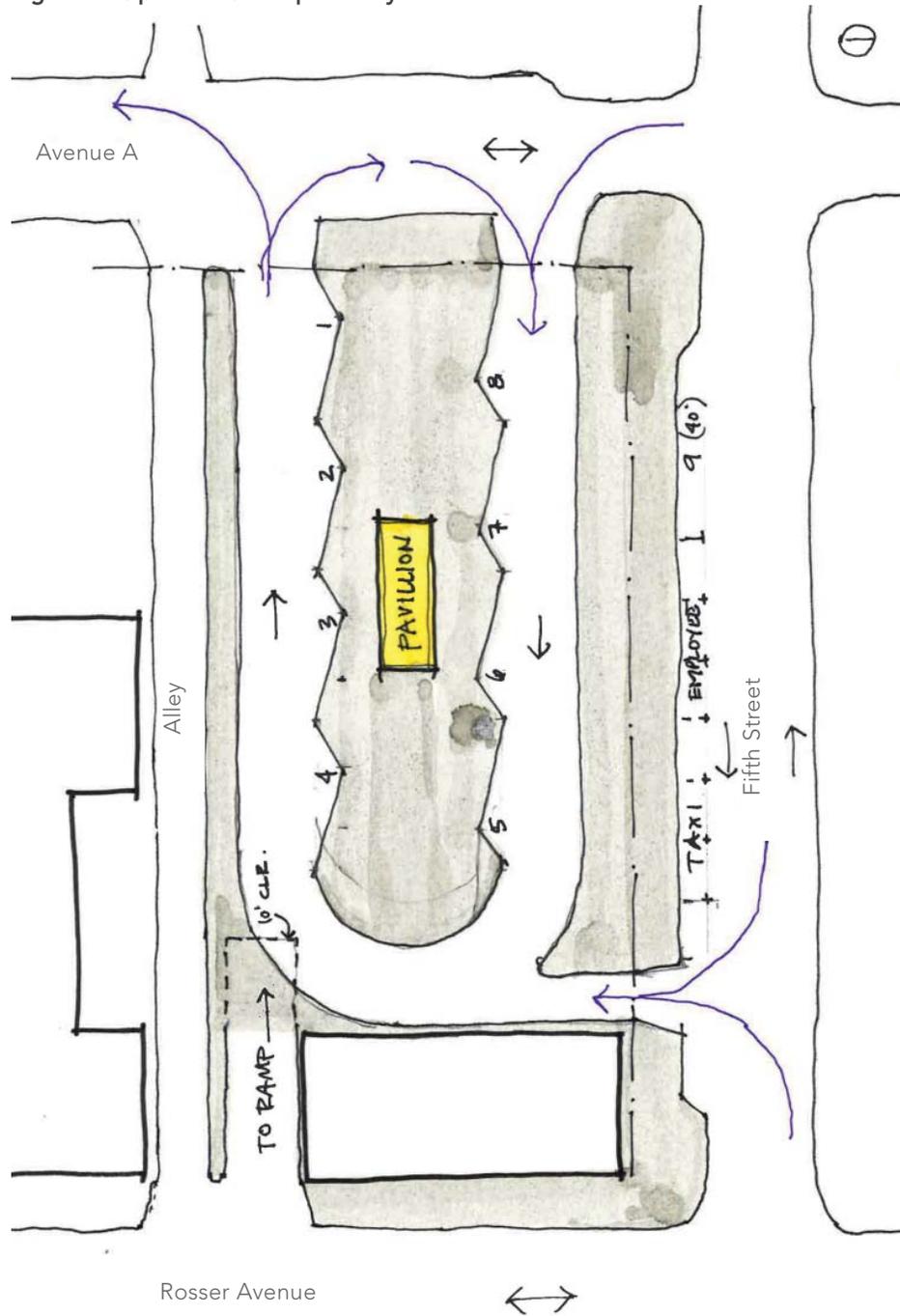
Figure 1 Sites Selected for Consideration



Potential Transit Center Concepts

Sketch layouts for each Options 1 through 6 are included in the figures on the following pages. In some cases more than one layout is offered in an effort to provide two design options, one for accommodation of existing CAT bus design vehicles and the other for accommodation of larger 40' bus design vehicles. Developing a concept for a larger design vehicle (40') allows for unanticipated changes to the type of bus serving transit in Bismarck, as well as, allowing other transit providers who utilize a larger design vehicle within the transit center.

Figure 2 Option 1 Conceptual Layout



* Layout Accommodates Existing CAT/Bis-Man Transit Design Vehicle

SITES LOCATION

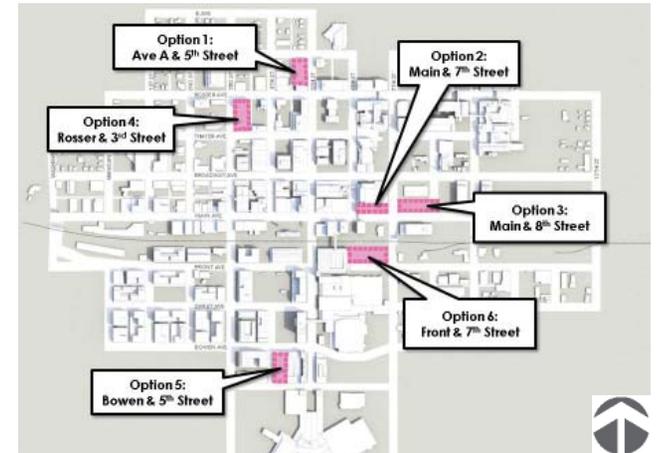
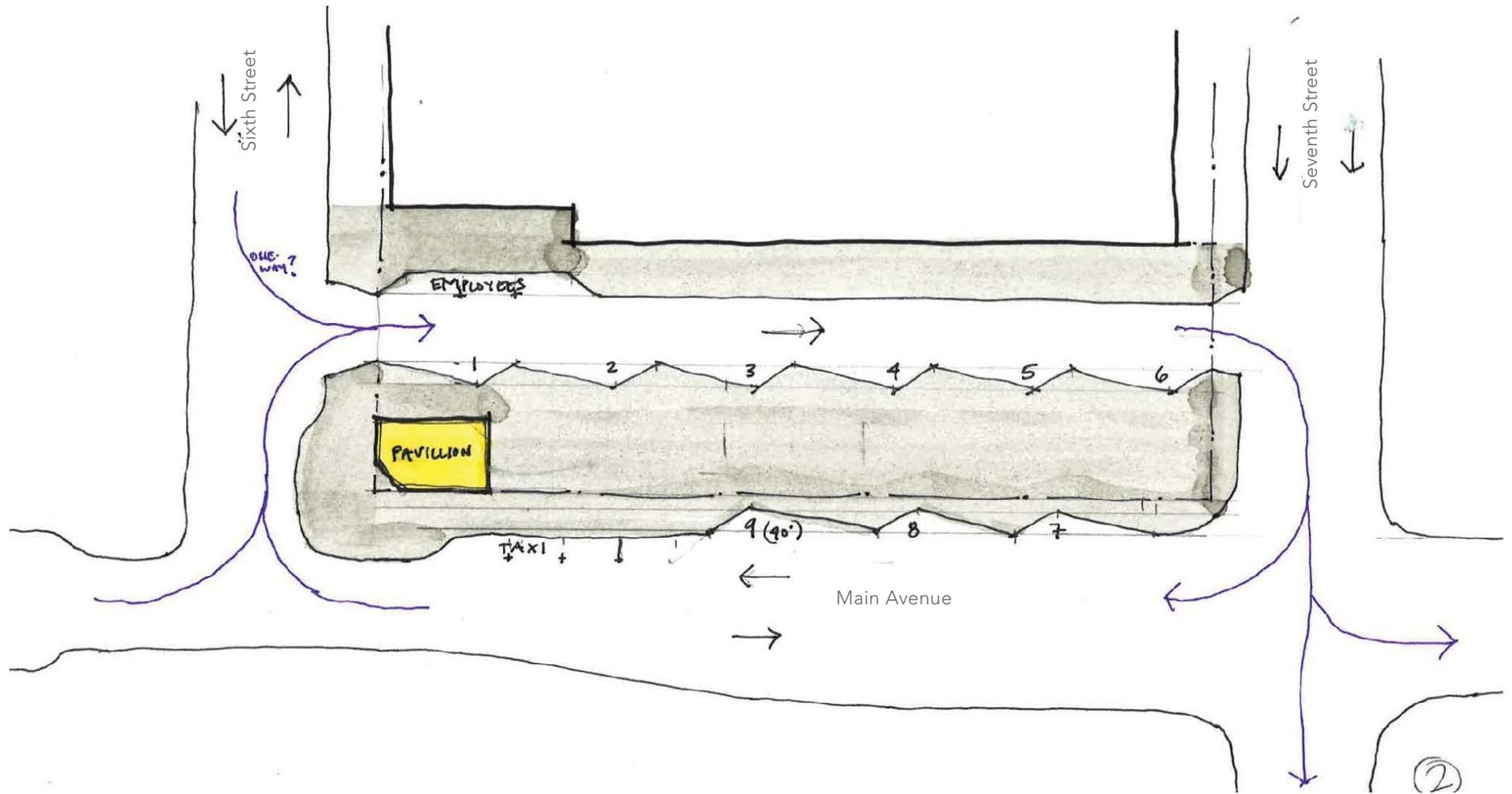
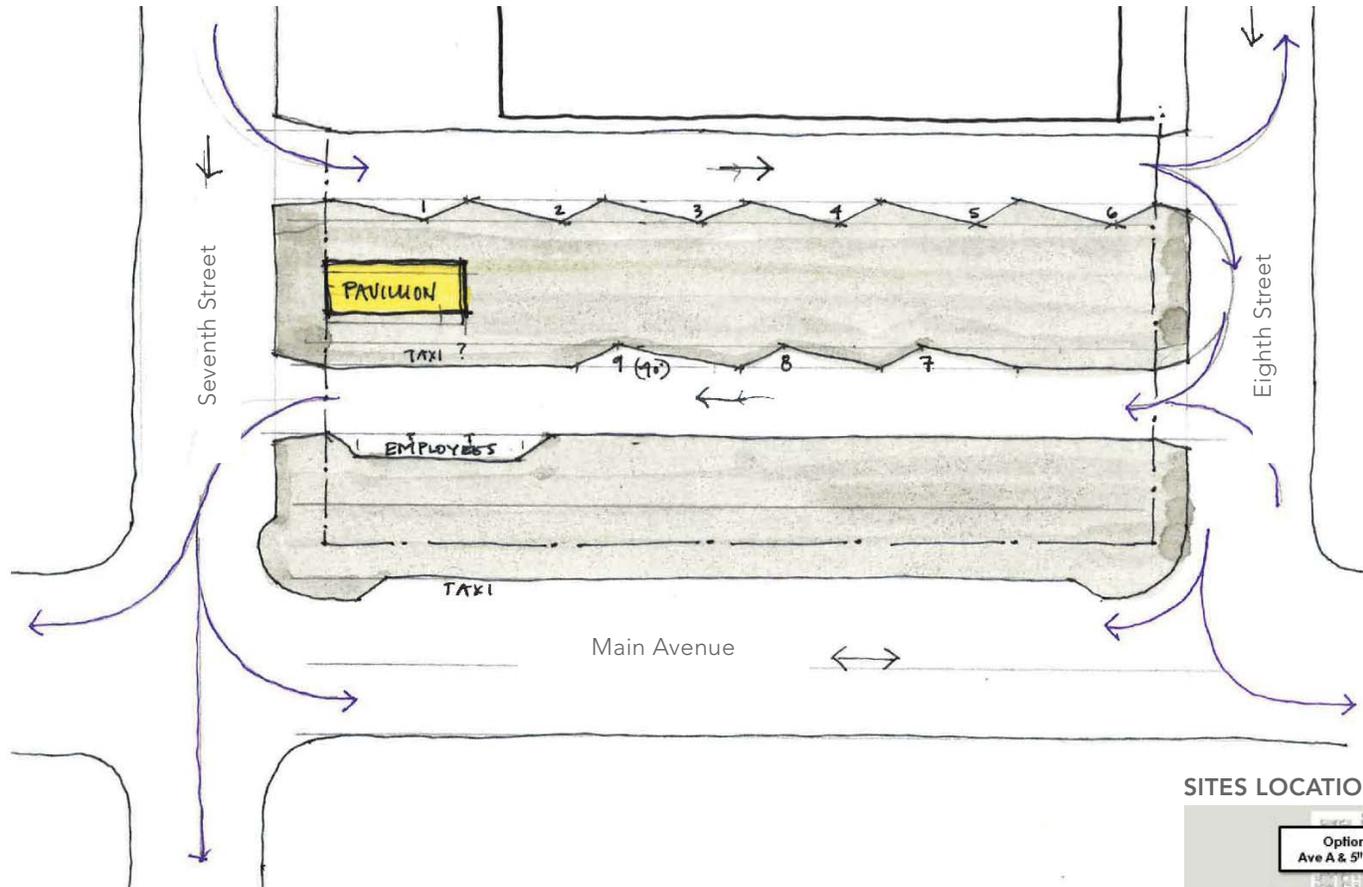


Figure 3 Option 2 Conceptual Layout



* Layout Accommodates Existing CAT/Bis-Man Transit Design Vehicle

Figure 4 Option 3 Conceptual Layout



* Layout Accommodates Existing CAT/Bis-Man Transit Design Vehicle

SITES LOCATION

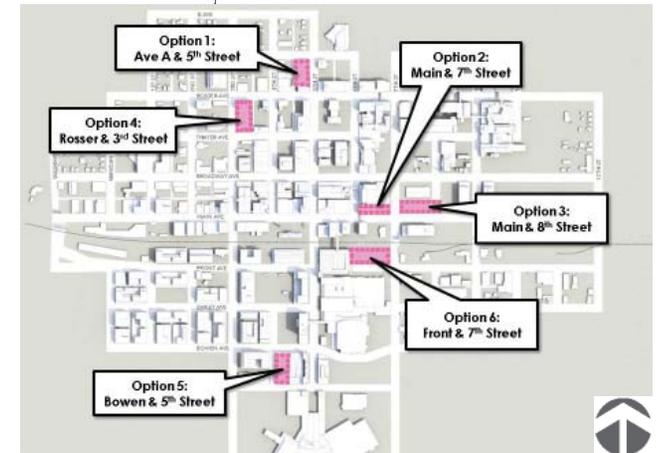


Figure 4 Option 3 Conceptual Layout



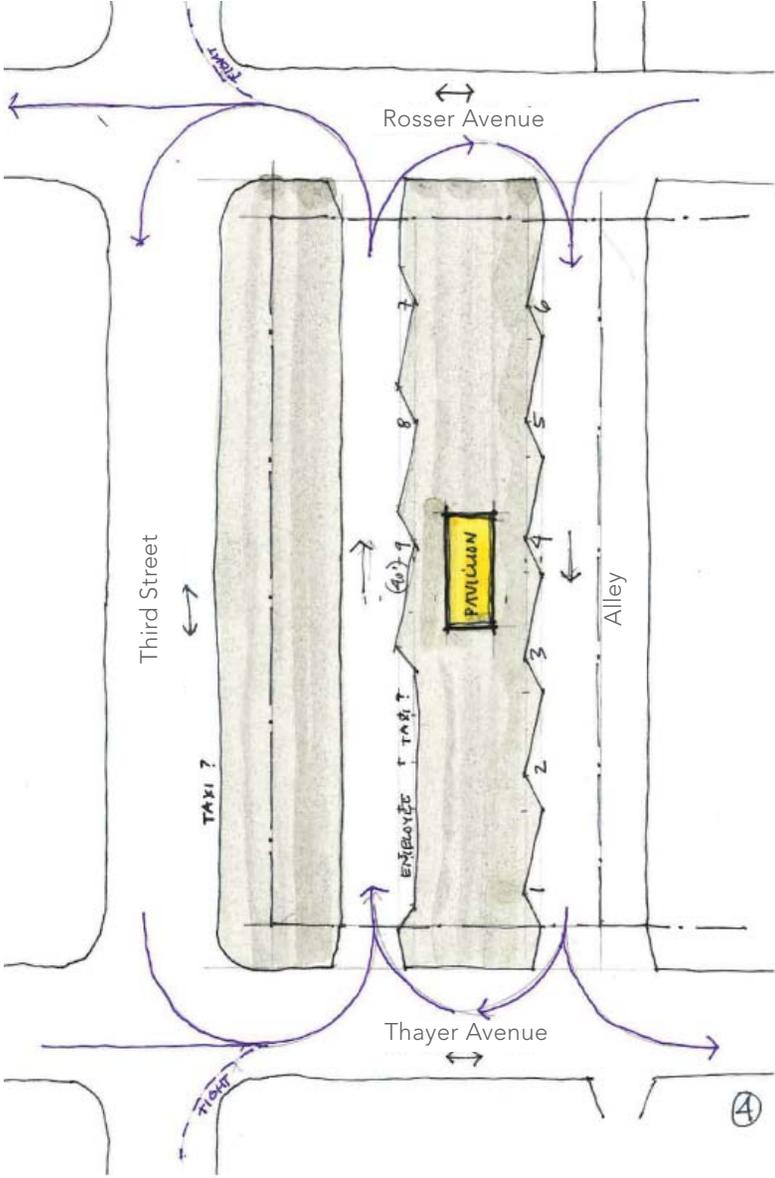
* Layout Accommodates 40' Transit Design Vehicle

Figure 4 Option 3 Conceptual Layout

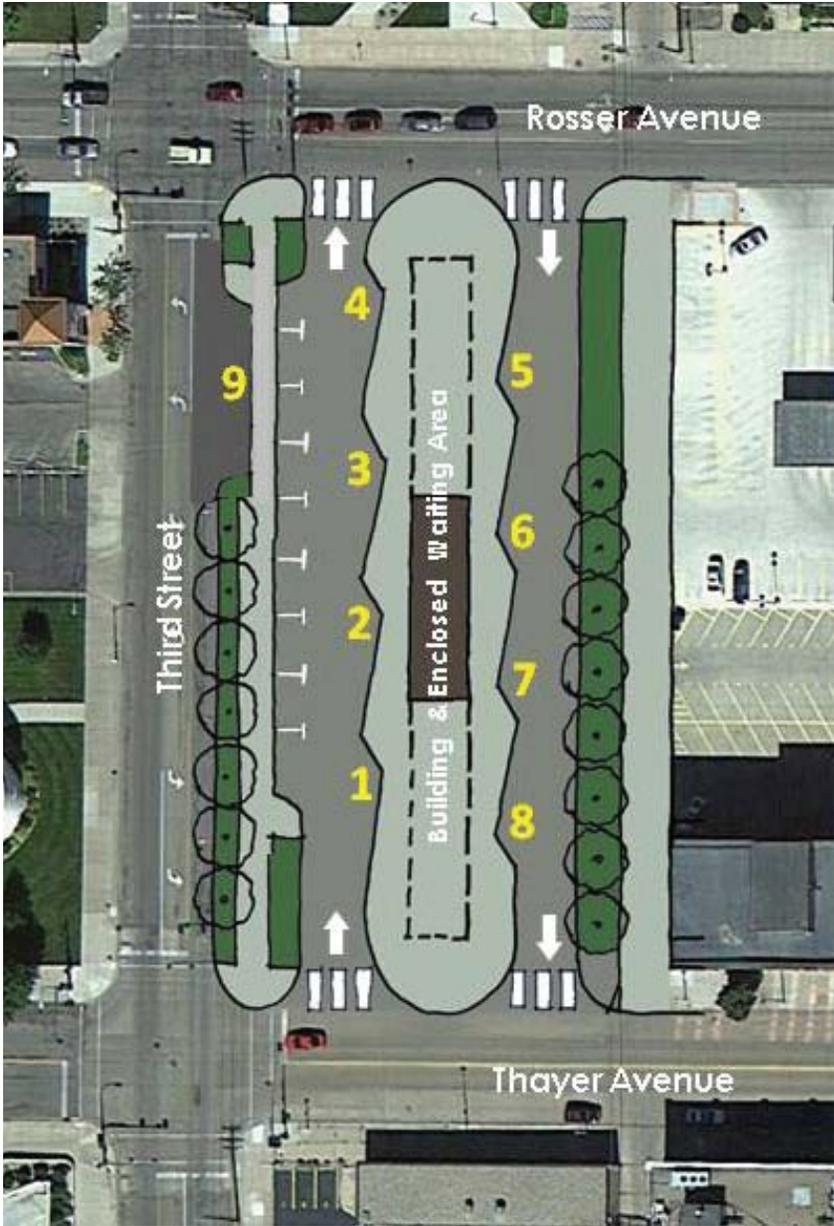


* Layout Accommodates 40' Transit Design Vehicle

Figure 5 Option 4 Conceptual Layout

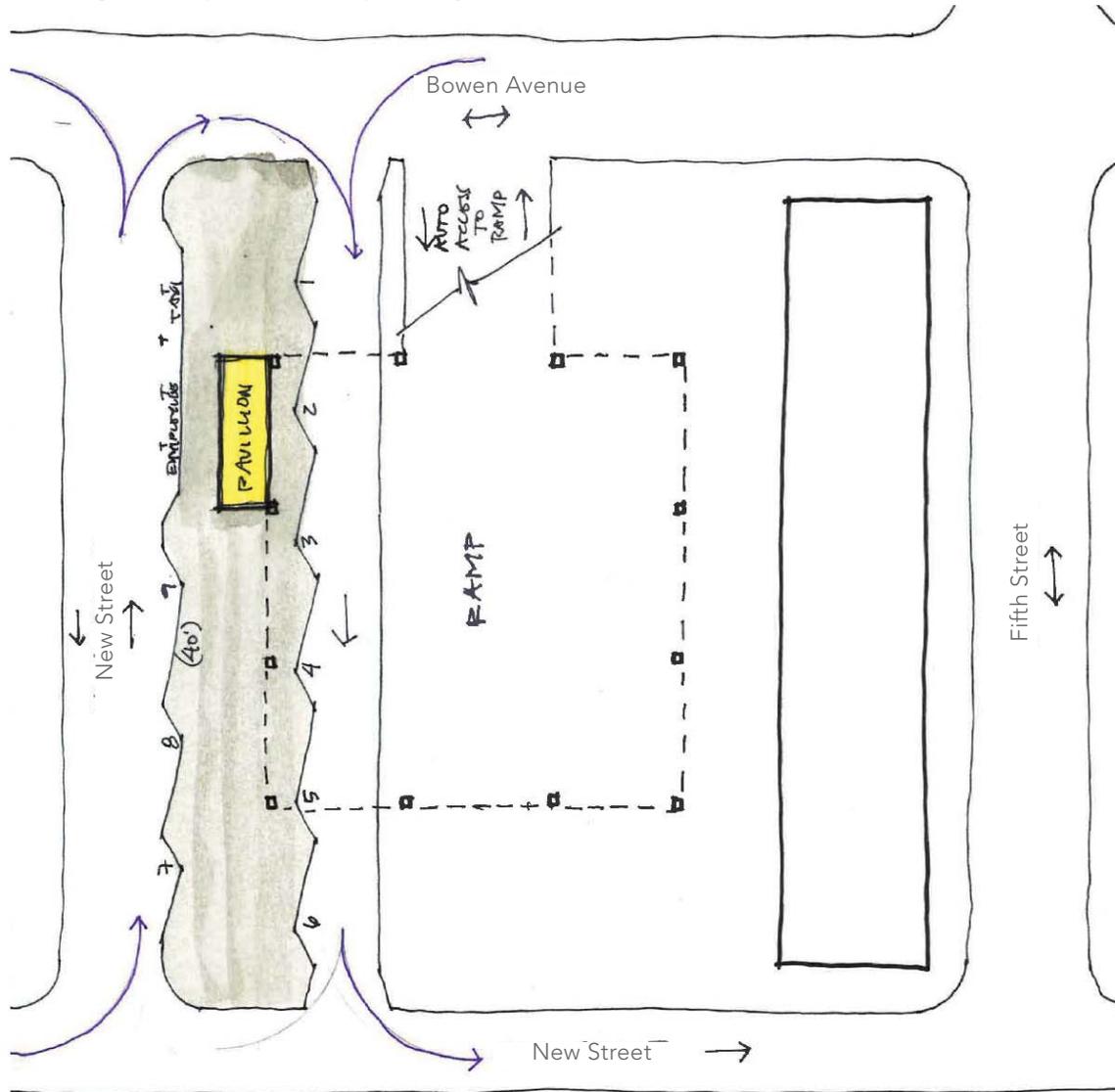


* Layout Accommodates Existing CAT/Bis-Man Transit Design Vehicle

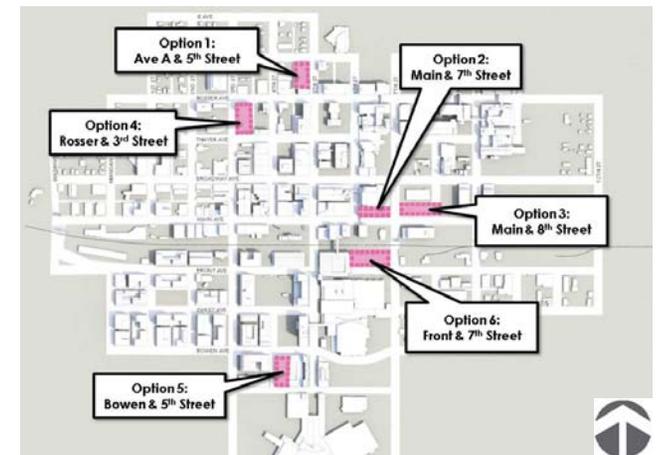


* Layout Accommodates 40' Transit Design Vehicle

Figure 6 Option 5 Conceptual Layout



SITES LOCATION



* Layout Accommodates Existing CAT/Bis-Man Transit Design Vehicle

Figure 7 Option 6 Conceptual Layout



- | | |
|------------------------------|----------------------|
| A 12 Bus Bays (40') | E Rail Trail |
| B Center Platform & Building | F Rail Trail Ramp |
| C CAT/Bis-Man Parking | G Stair to Underpass |
| D Taxi | |

* Layout Accommodates 40' Transit Design Vehicle

Existing Transit Operations

A preliminary analysis included an evaluation of potential impacts on existing CAT vehicle in-service run times if the current routes were adapted to one of the proposed transit center sites. As shown in Figure 8, times represent travel only and do not include dwell or circulation at new transit centers. We assume an intra-parking lot travel time of one (1) minute for routes that currently serve Kirkwood Mall but will not in the future. This applies to all routes except B-1, B-2, and E-2, which are assumed to continue to serve the mall after a new transit center is constructed. (For the purposes of this analysis, we assume Route E-2 will continue to serve the 2nd/Indiana loop and Kirkwood Mall.)

Figure 8. Approximate Running Time Impacts for Existing Routes to Serve Transit Center Options

Route Area	Route #	Effect on Route Travel Time (in Minutes)					
		Option 1	Option 2	Option 3	Option 4	Option 5	Option 6
E Bismarck	A-1	- 3	- 3	- 3	- 2	- 1	-2
E Bismarck	A-2	- 6	- 4	- 4	- 5	- 1	-2
SW Bismarck	B-1	+ 6	+ 3	+ 3	+ 8	+ 4	+2
SW Bismarck	B-2	+ 9	+ 7	+ 7	+ 10	+ 1	+5
NE Bismarck	C-1	Routes do not serve Downtown or Kirkwood Mall.					
NE Bismarck	C-2						
NE Bismarck	D-1						
NE Bismarck	D-2						
Express Kirkwood to Gateway	E-1	- 5	- 3	- 3	- 4	- 3	-2
Express Gateway to Kirkwood	E-2	+ 2	+ 6	+ 6	+ 2	- 2	+4
Bismarck & Mandan	M-1	- 1	- 1	-	-	- 2	-2
Mandan & Bismarck	M-2	- 1	- 1	- 1	-	- 2	-2

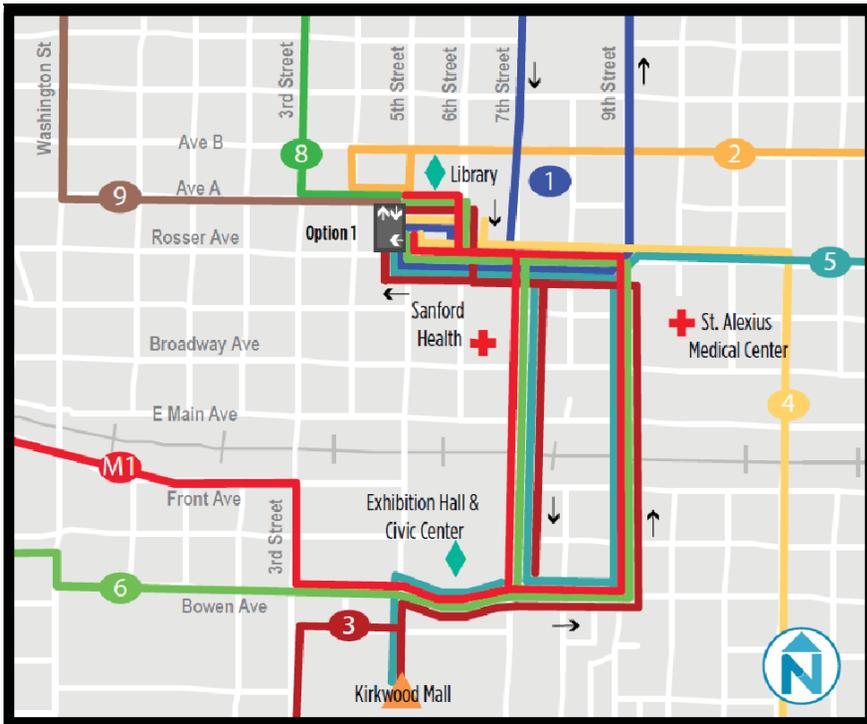
The calculations suggest that by interlining specific routes with routes that are different from their current pairings, route run times would generally be minimally impacted. For example, longer run times on the southwest Bismarck routes could be balanced with shorter run times on the east Bismarck routes and overall shorter run times from northeast Bismarck routes that currently do not connect to Kirkwood Mall. Some small portions of the existing routes could also be streamlined to allow for improved run times.

Future Transit Scenario

Based on the preferred (significant changes) modifications presented in Mobility 2017, Nelson\Nygaard evaluated possible ways to serve the new transit facility sites. The analysis shows that all of the facilities can be served without significant changes to the overall preferred transit scenario, although moderate changes will be needed to allow for access to primary downtown destinations. Option 6 presents the greatest challenge in terms of access to the site for buses, but this can be mitigated. These are shown in Figure 9

Figure 9 Future Transit Scenario, Possible Options to Serve Transit Centers

Option 1



Option 2

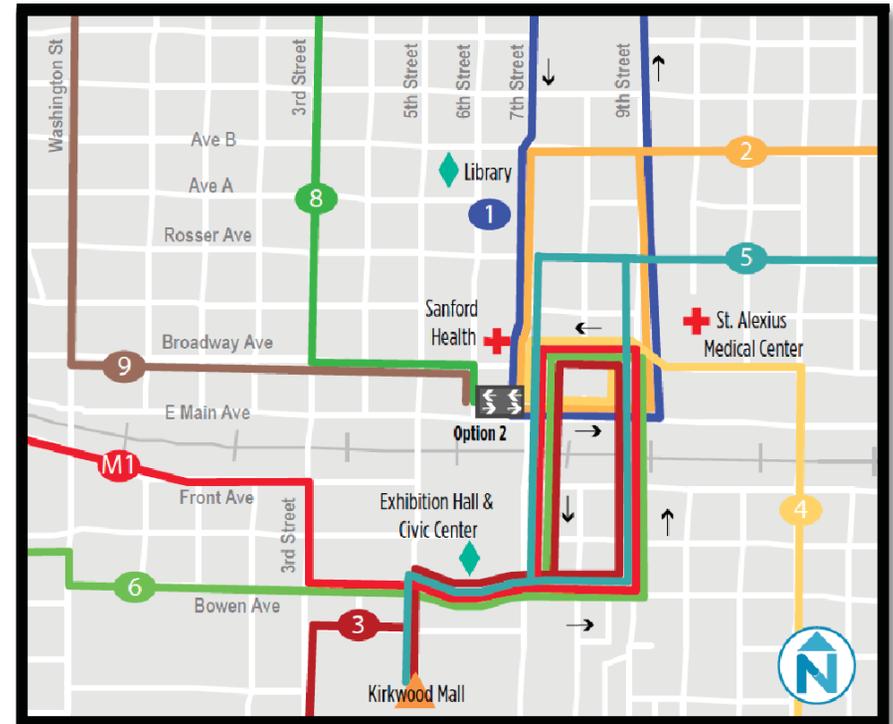


Figure 9 Future Transit Scenario, Possible Options to Serve Transit Centers

Option 3



Option 4



Figure 9 Future Transit Scenario, Possible Options to Serve Transit Centers

Option 5



Option 6



Preliminary Site Functional Evaluation

A cursory evaluation of these sites suggest all of them have opportunities to serve as functional facilities to meet at least the basic program proposed by transit staff. This evaluation is shown in Figure 10.

Figure 10 Preliminary Transit Center Site Evaluation

Transit Center Site Evaluation	Option 1 Ave A & 5 th	Option 2 Main & 7 th	Option 3 Main & 8 th	Option 4 Rosser & 3 rd	Option 5 Bowen & 5 th	Option 6 Front & 7 th
Location Criteria						
Access to existing multiple trip generators (jobs, services, and retail)	●	●	●	●	●	●
Compatibility with existing adjacent uses	●	●	●	●	●	●
Comfortable and safe environment	●	●	●	●	●	●
Connection with other modes of transportation	●	●	●	●	●	●
Site Criteria						
Ability to accommodate bus transit vehicles	●	●	●	●	●	●
Ability to accommodate support facilities (waiting areas, restrooms, driver facilities)	●	●	●	●	●	●
Ability to meet expanded demand and space to meet unanticipated future needs	●	●	●	●	●	●
Impact on operations (deadhead miles, re-routing, operating costs)	●	●	●	●	●	●
Impacts on ridership (access, convenience, comfort, personal safety)	●	●	●	●	●	●
Circulation Criteria						
Existing/future route service	●	●	●	●	●	●
Transit vehicle site access	●	●	●	●	●	●
Pedestrian and bicycle site access	●	●	●	●	●	●
Auto/truck impacts (signalization, travel lanes, on-street parking)	●	●	●	●	●	●
Financial						
Site acquisition cost	TBD*	●	●	●	●	●

Legend:

● Good - Highest Ranking ● Fair - Medium Ranking ● Poor - Lowest Ranking (Potential Fatal Flaw)

*Proposed site could be expanded to allow for all vehicles to be accommodated off-street. Costs must be determined for the purchase of additional land.

Conclusion

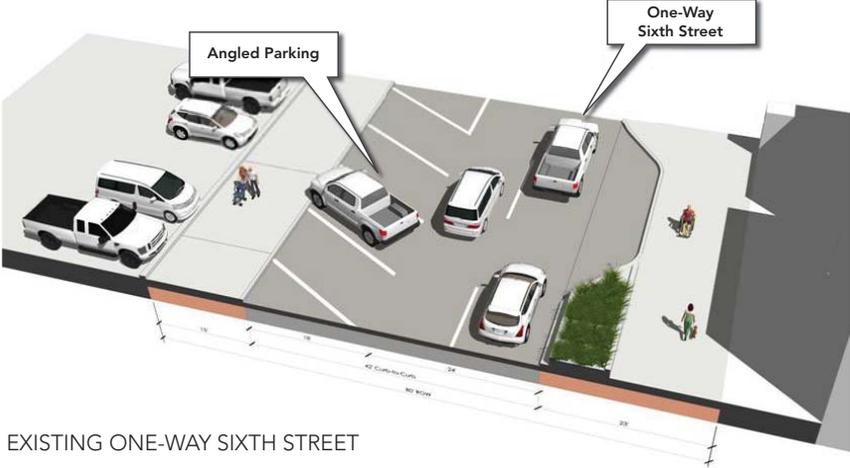
Based on this analysis, Options 2, 3 and 5 were identified to have constraints that may preclude them from consideration for a transit facility (including capacity and site acquisition costs). Option 1 costs are indeterminate at this time, depending on whether the City of Bismarck would be able to use the County-owned site and purchase an adjacent lot to allow for the full transit program to be accommodated on site.

Based on cost and operational factors, Options 4 and 6 offer some advantages to the City. If cost are not a significant factor, Option 4 offers perhaps the best combination of location, operations functionality, and future expansion potential among the six considered sites. Nevertheless, other factors such as land use goals, funding sources that allow for multimodal transit/garage construction, or environmental requirements/costs may suggest that Option 6 is better suited for a downtown transit center.

Option 6 has the capacity to accommodate up to twelve 40-foot vehicles, as well as, a future parking ramp. Located along an active rail line with the potential to serve future passenger trains, the site is in close proximity to planned development in Bismarck, and offers good bike access. Enhanced efforts will be required to improve pedestrian access to downtown.

The site's greatest challenge will be in route design and operations because (1) only 7th Street, 9th Street, and Washington Street offer a rail grade separation and (2) because the site is only accessible from Front Avenue. These challenges can be overcome through service planning, but may also merit some possible capital improvements, such as a new signal or turning lane on Front Avenue (at the entrance to the facility) or signal preemption at 7th and 9th Streets.

SIXTH STREET RAMP SUGGESTED CHANGES

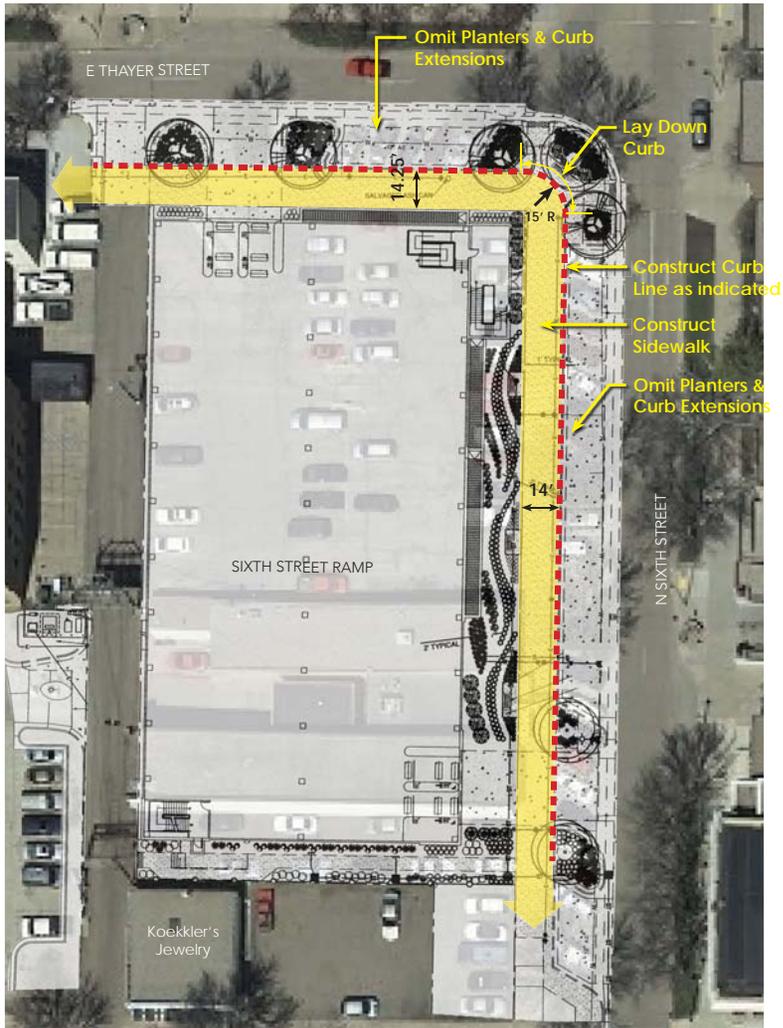


EXISTING ONE-WAY SIXTH STREET

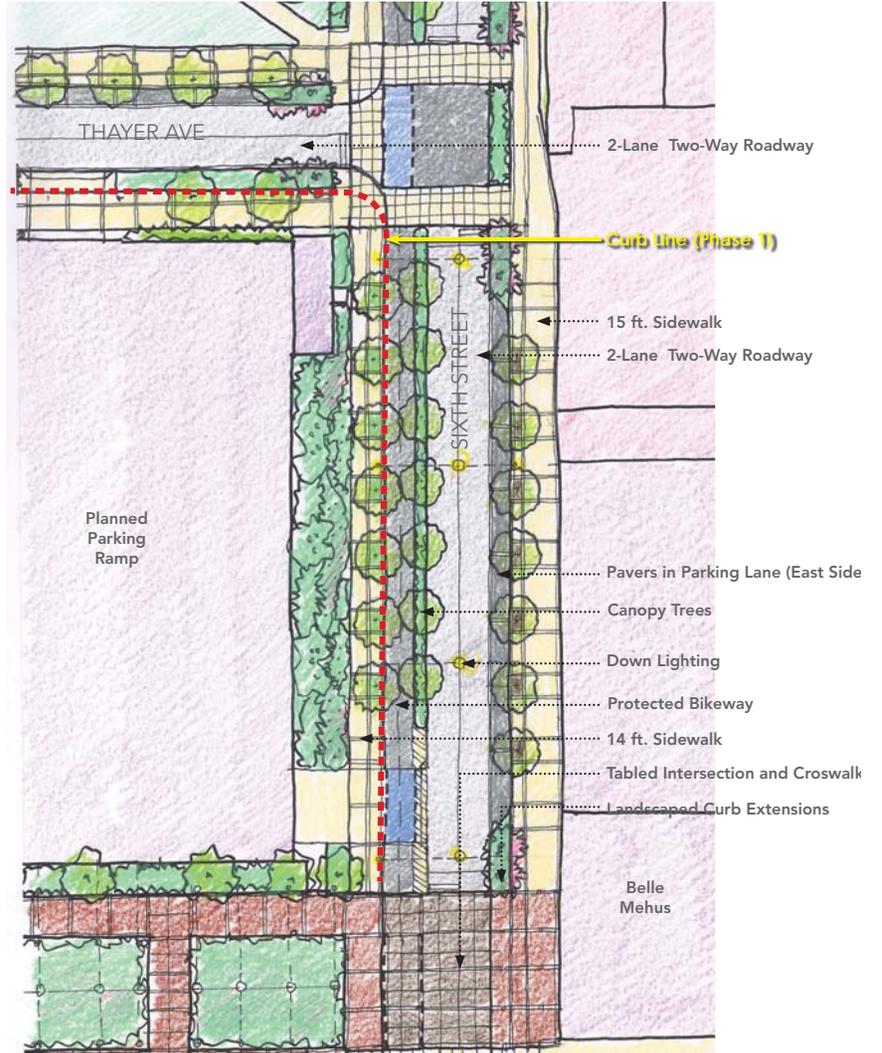


PROPOSED TWO-WAY SIXTH STREET

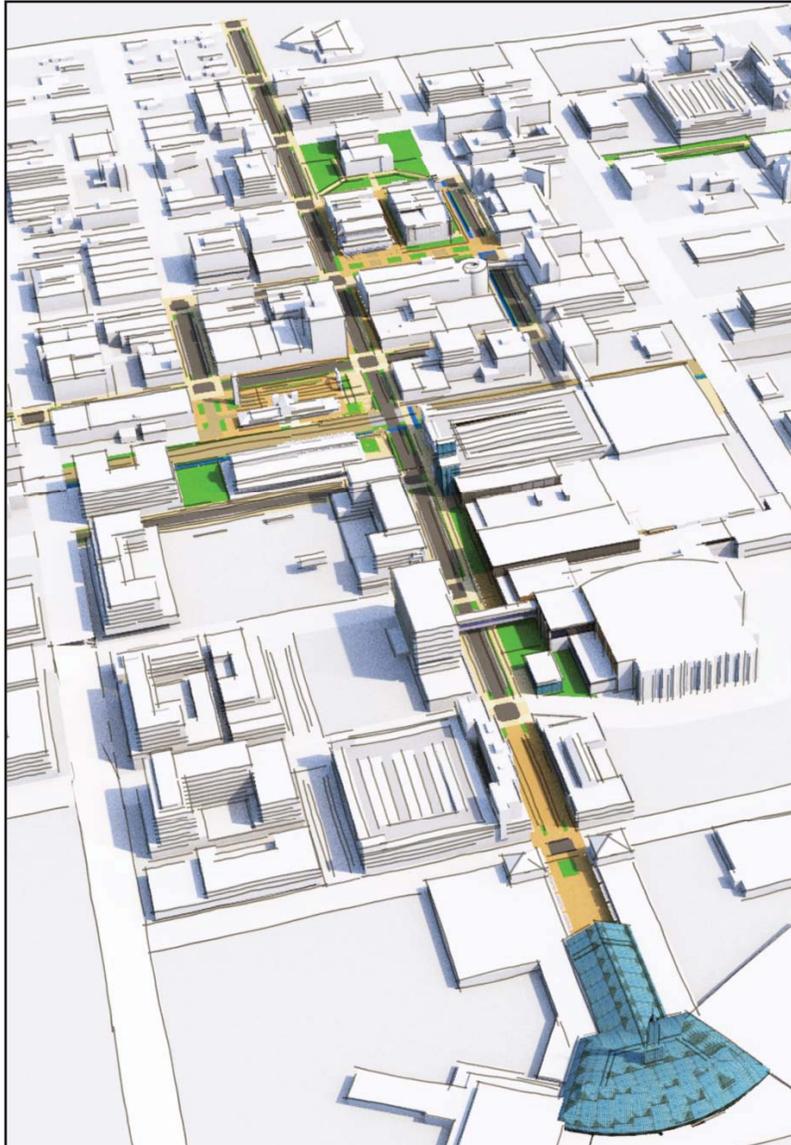
DOWNTOWN BISMARCK SUBAREA PLAN
PROPOSED BELLE MEHUS GREEN- GATHERING SPACE AND TWO-WAY 6TH STREET AND THAYER STREET



6TH STREET PARKING RAMP- SITE LANDSCAPE PLAN (ULTEIG)
RECOMMENDED PHASE 1- 6TH STREET AND THAYER STREET



DOWNTOWN BISMARCK SUBAREA PLAN
PROPOSED FUTURE 6TH STREET AND THAYER STREET



Downtown Bismarck Subarea Study

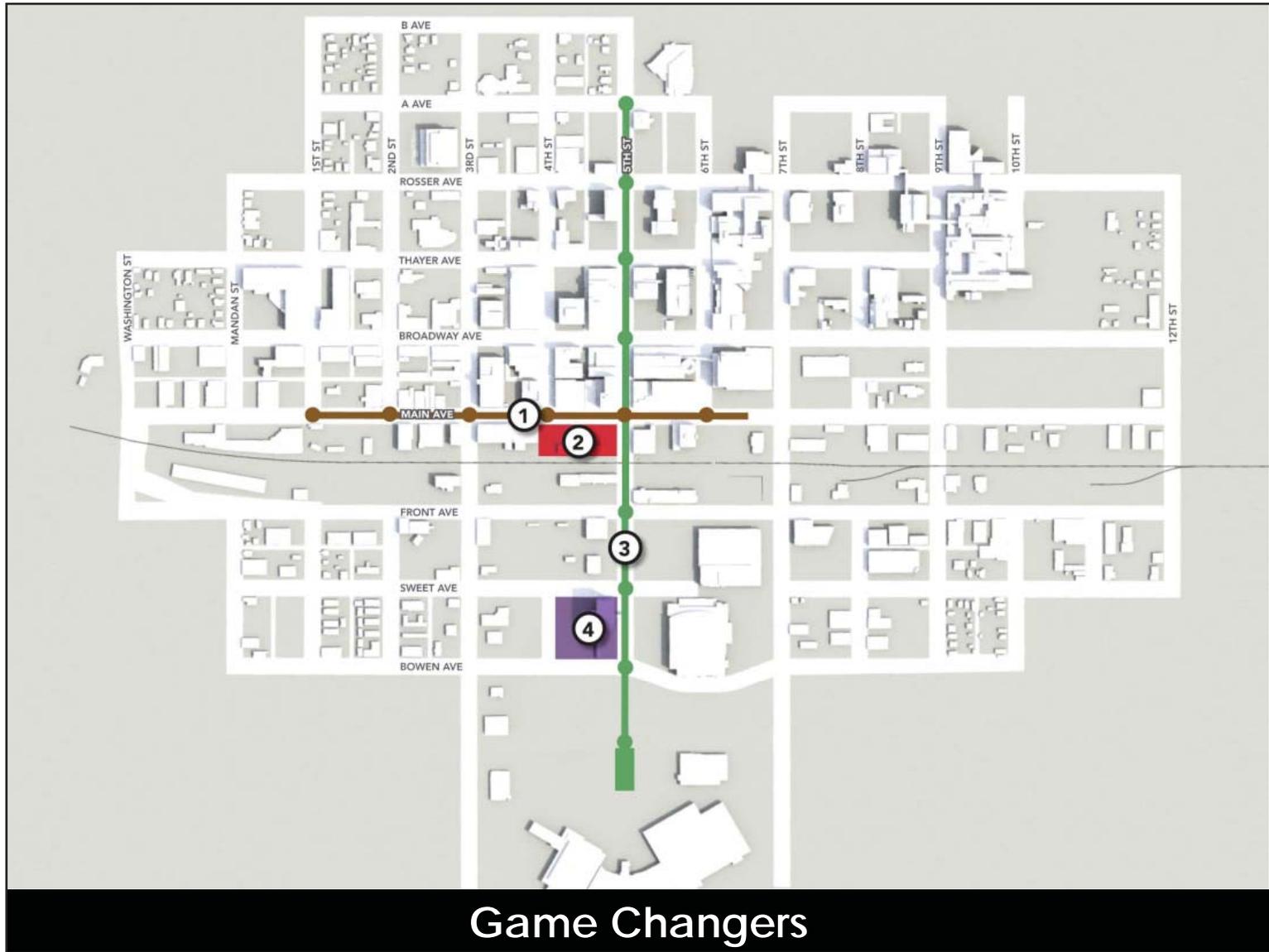
Bismarck-Mandan MPO
City of Bismarck, North Dakota

August 13-14, 2013

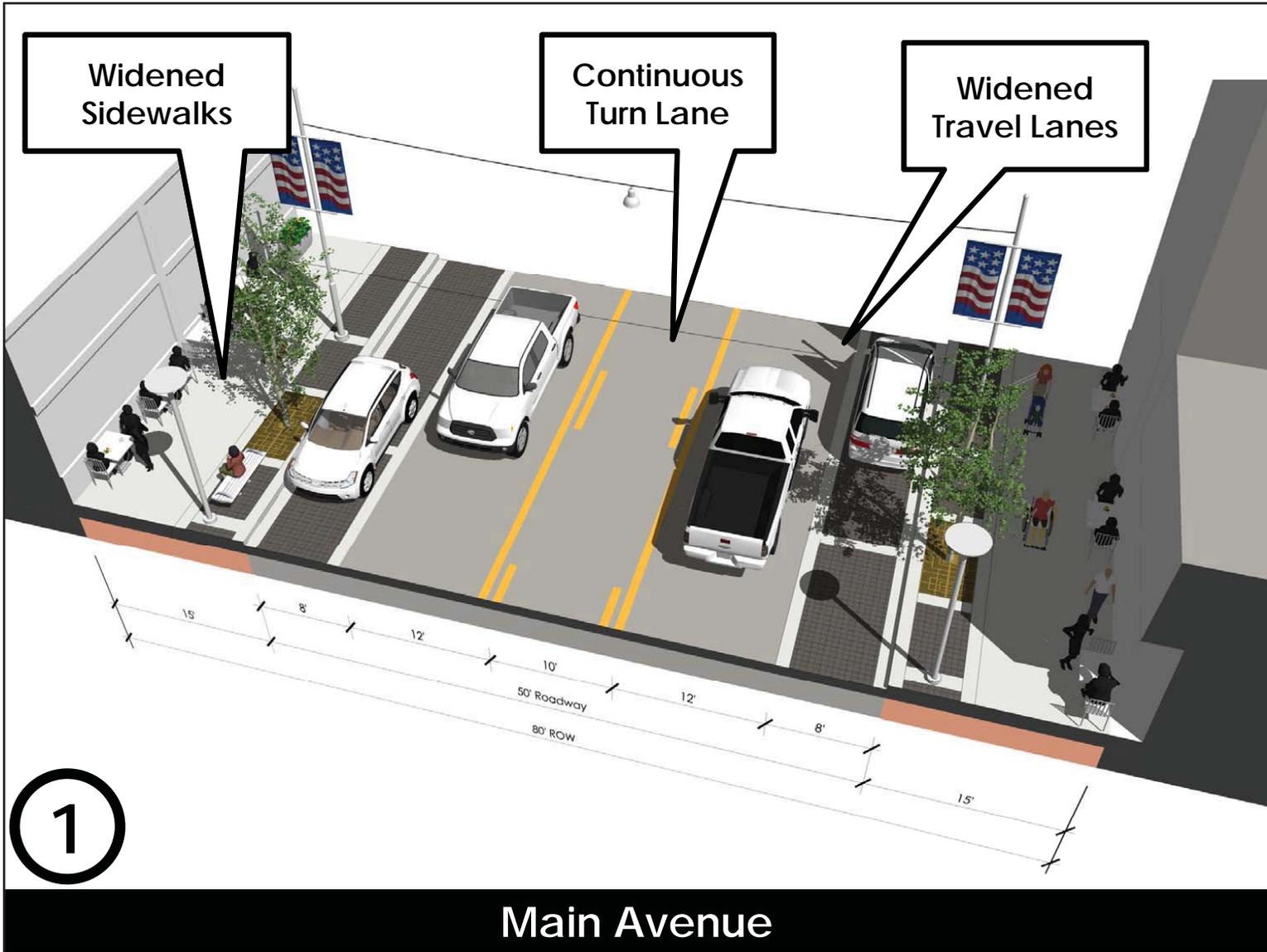
Refined Concept and Draft Implementation Plan

CRANDALL ARAMBULA
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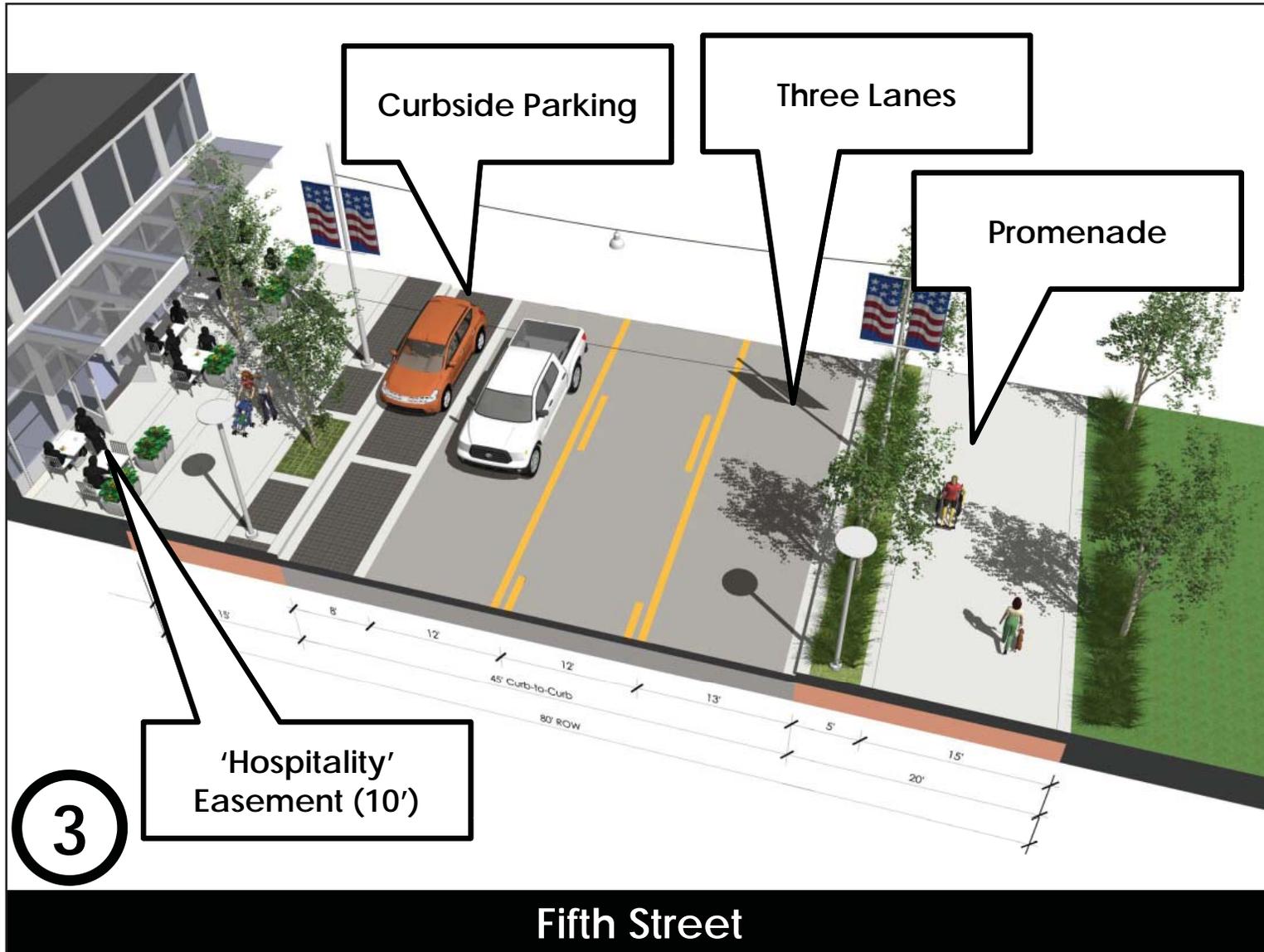
Game Changers





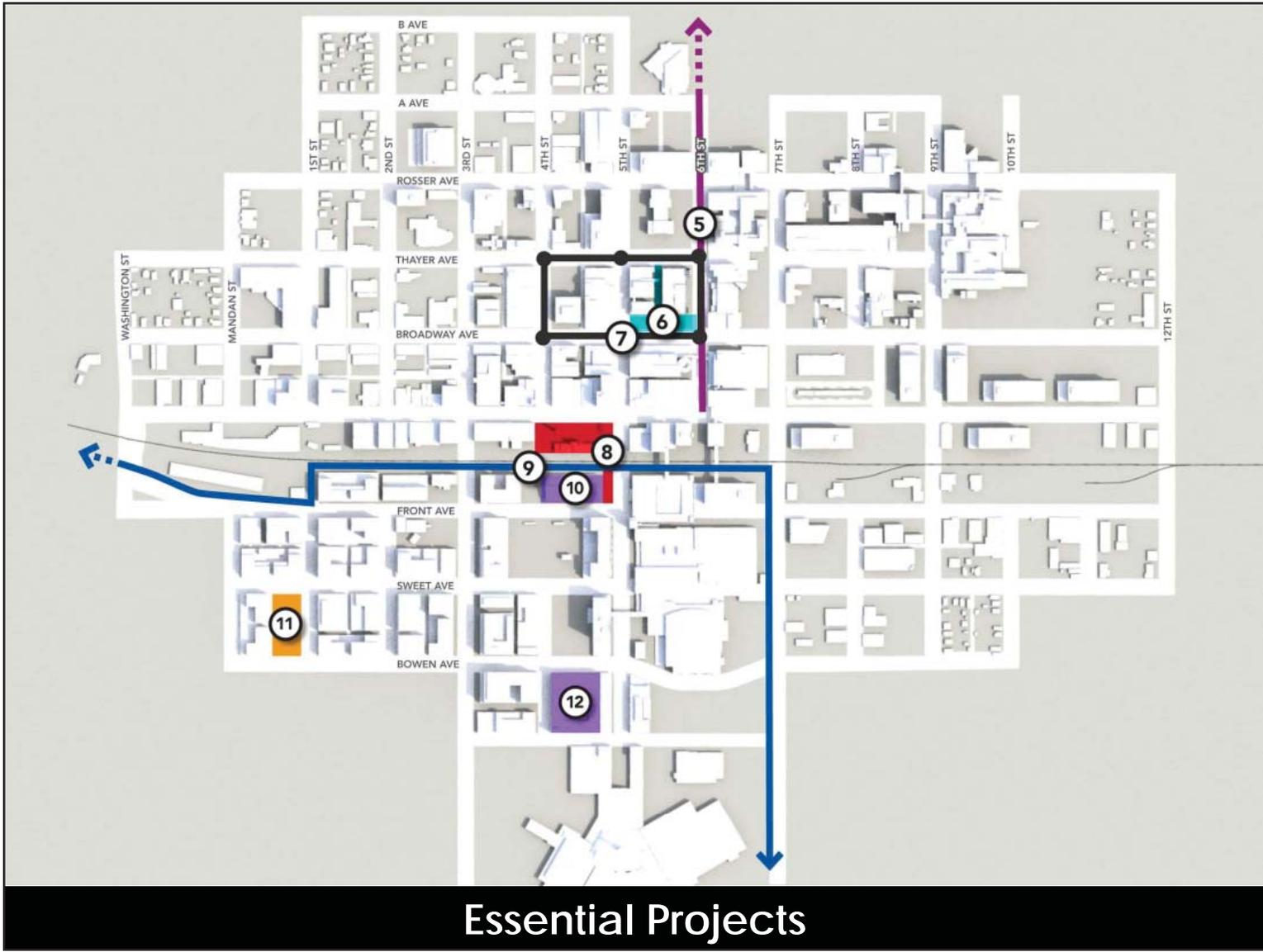
2

Depot Plaza





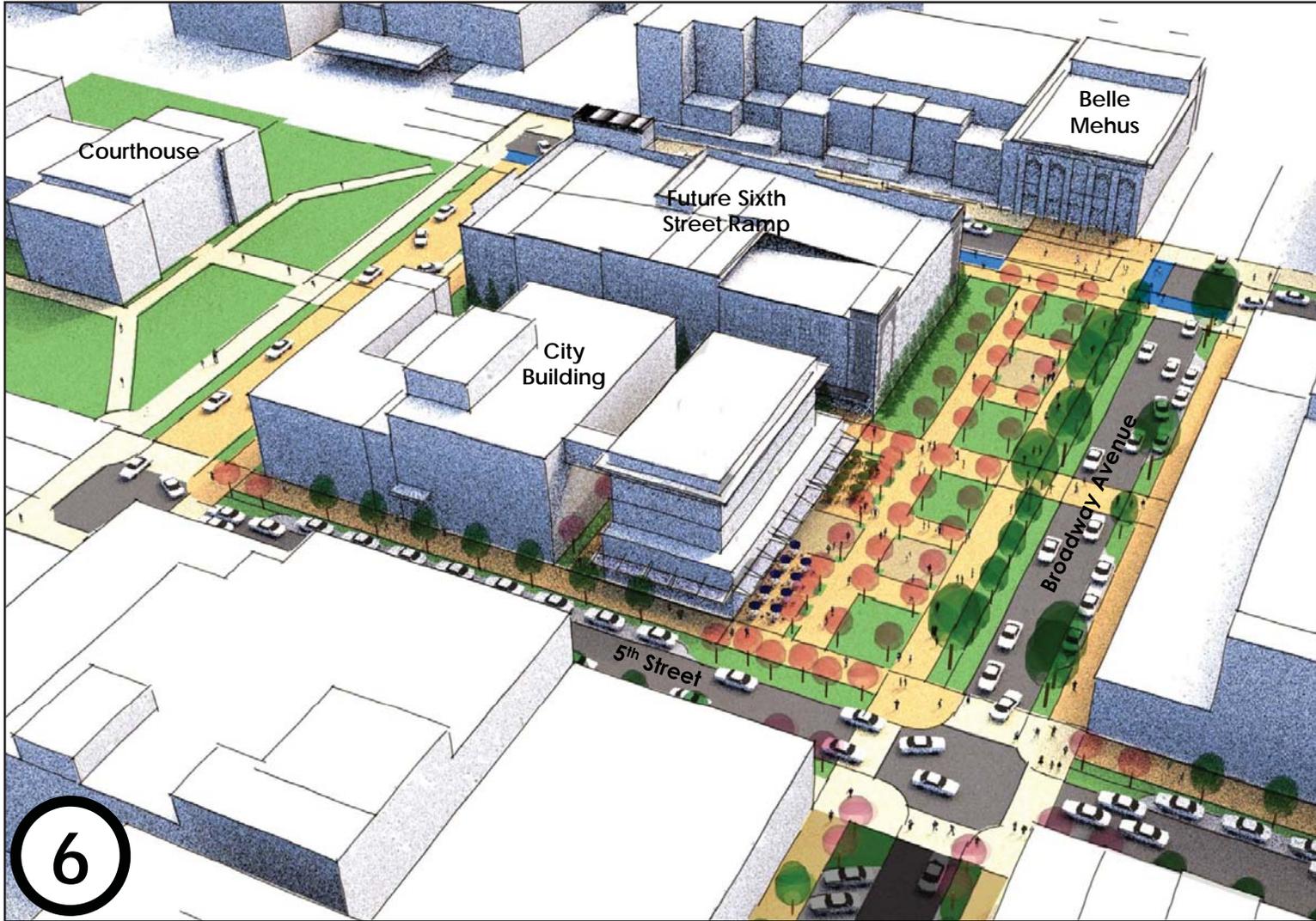
Convention Hotel



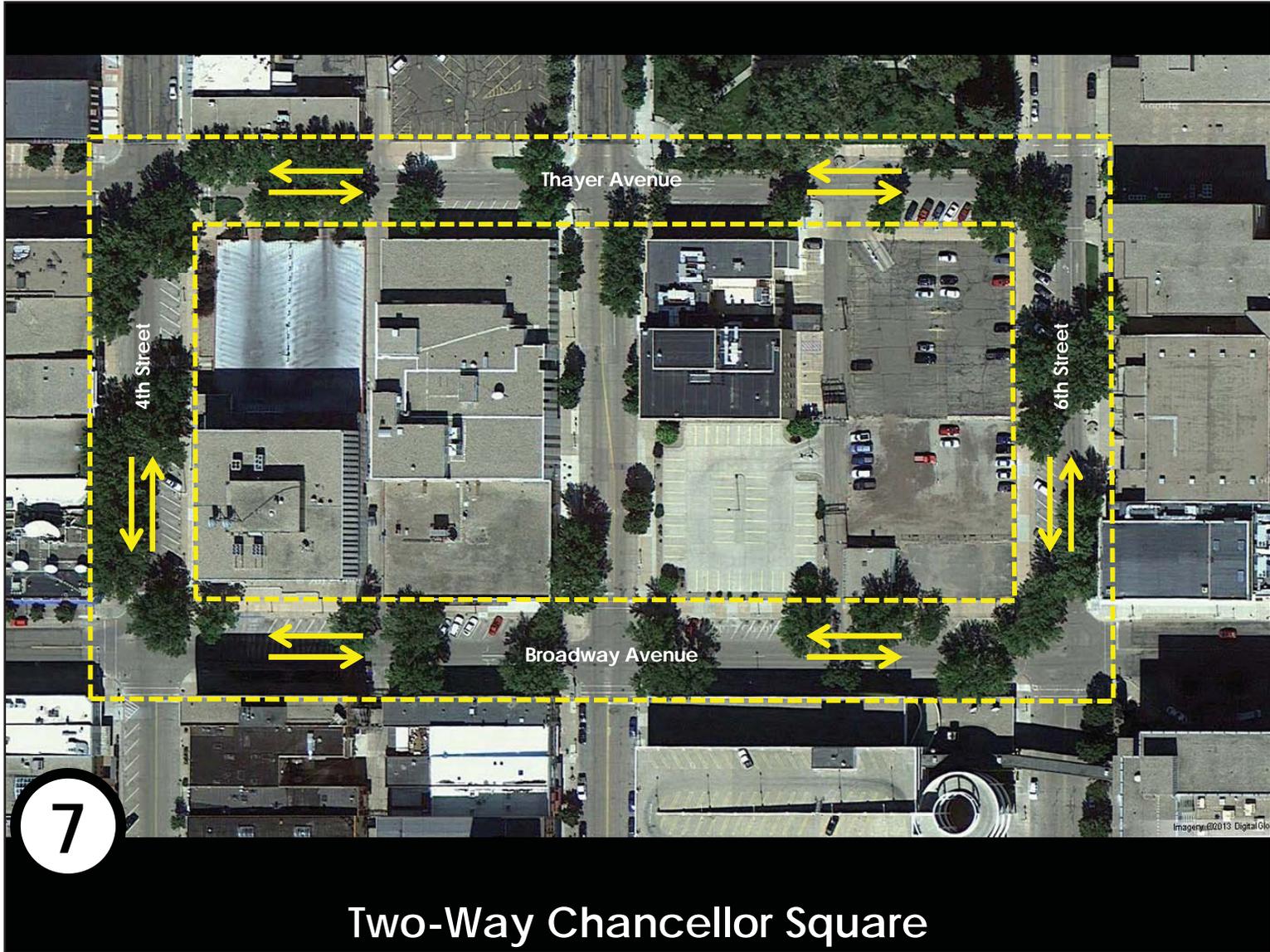
Essential Projects



Sixth Street Cultural Trail



Mehus Commons



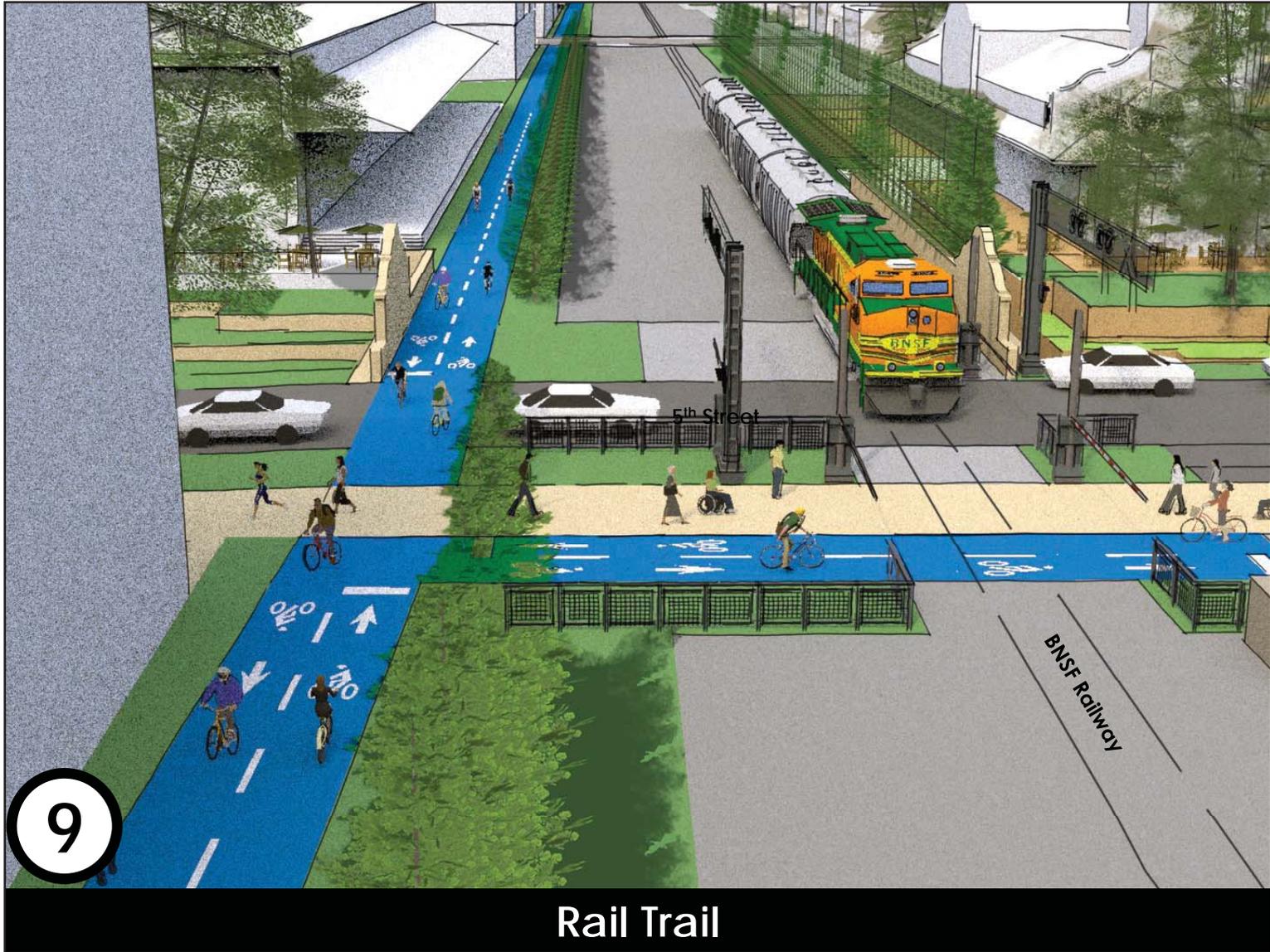
7

Two-Way Chancellor Square

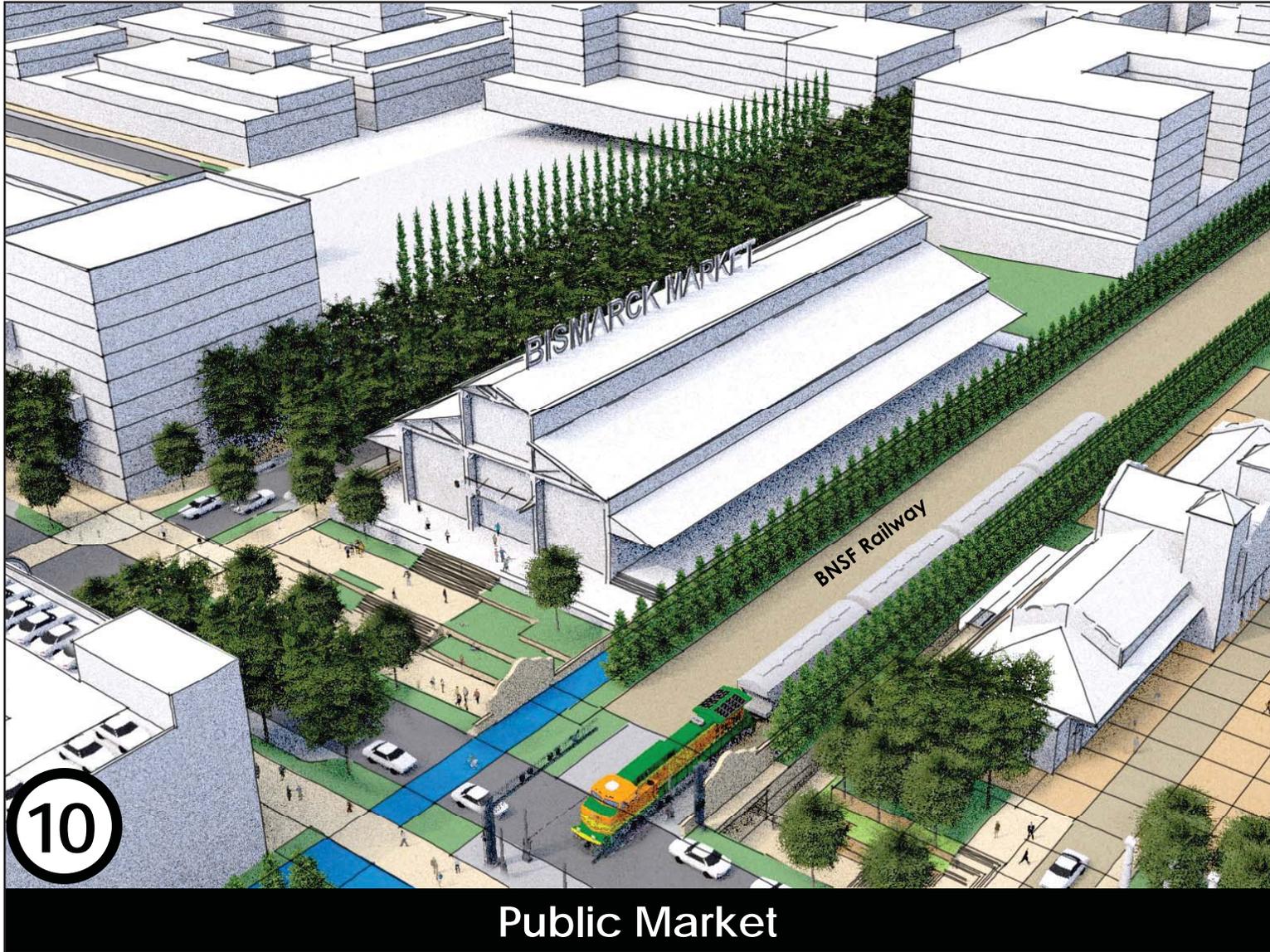


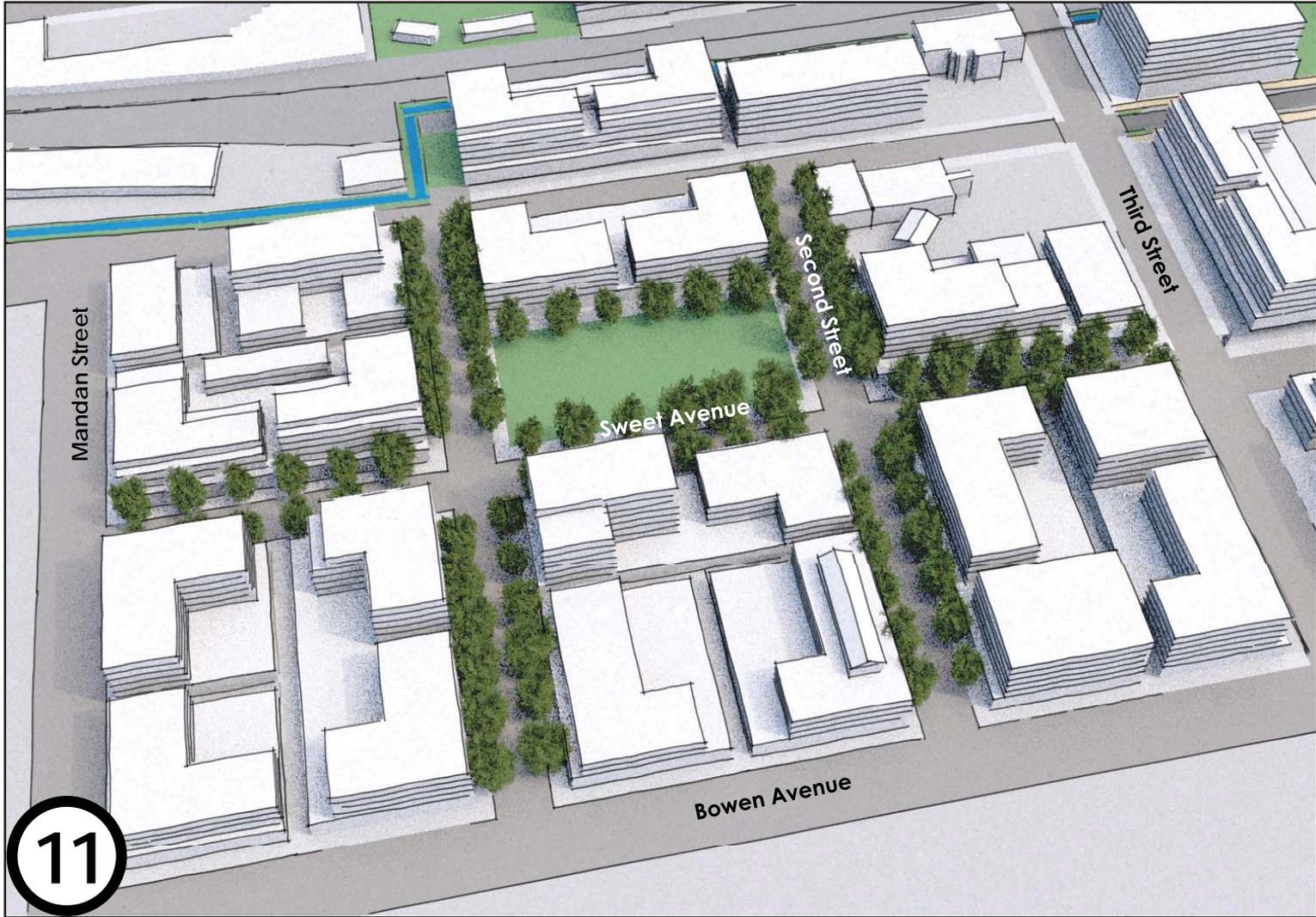
8

Fifth Street Pedestrian Underpass



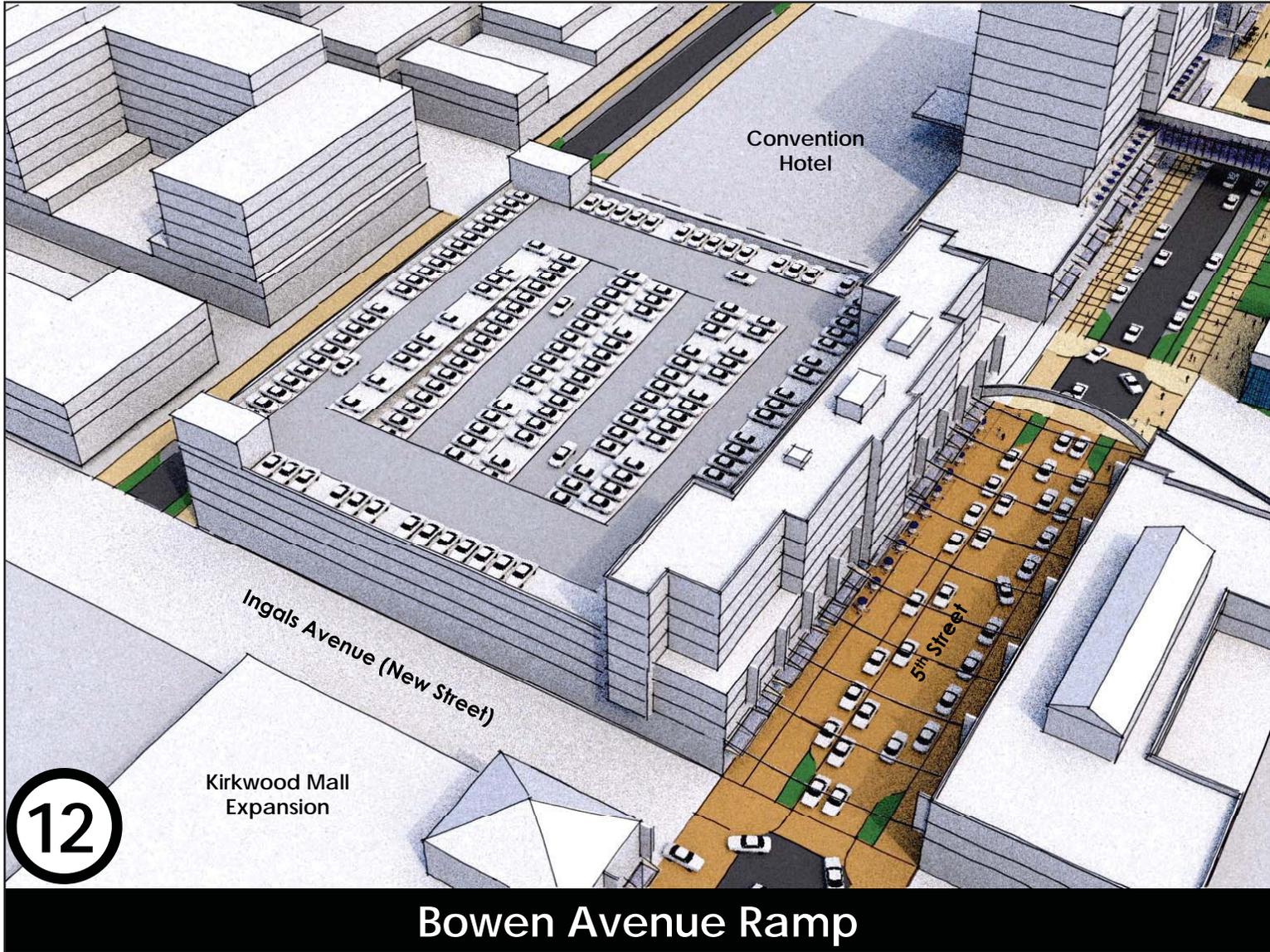
Rail Trail





11

Neighborhood Park



Bowen Avenue Ramp

Process & Schedule

2013

Feb | Mar | Apr | May | Jun | July | Aug | Sept | Oct | Nov

1 Starting

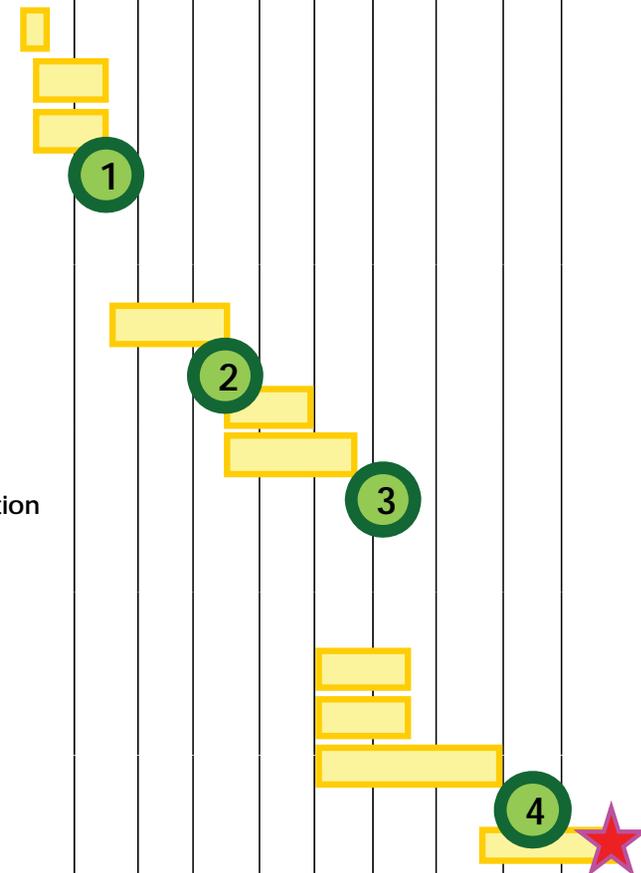
- Project Team Kick-off Meeting
- Collect and Review Background Information
- Prepare Opportunities and Constraints Analysis
- Meetings & Public Workshop 1—Identify Study Criteria

2 Designing

- Develop Alternatives
- Meetings & Public Workshop 2—Present Alternatives
- Refine Alternatives /Technical Reviews
- Draft Implementation Plan
- Meetings & Public Workshop 3—Refined Concept /Implementation

3 Implementing

- Finalize Concept and Implementation
- Recommend Regulatory Updates
- Draft Report and MPO Review
- Meetings & Public Hearings
- Prepare Final Report



MEETINGS/PUBLIC WORKSHOP #3 SUMMARY

Meeting Summary

Downtown Bismarck Subarea Study
Meetings & Public Workshop #3
August 13-15, 2013

3

Summary

The third of the Downtown Bismarck Subarea Study committee/stakeholders meetings and public workshop were held August 13 to August 15, 2013. During that period, the consultants presided over a total of eleven meetings that included the Technical Advisory Committee, Steering Committee, the City Commission and numerous stakeholder groups at the City/County Building located at 221 N. 5th Street.

The Public Workshop #3 was held on August 14 from 5:30-7:00pm at the Civic Center Prairie Rose Room 205 and was attended by approximately 75 community members.

Additional public input was collected via on-line response sheets up to September 2nd. The on-line response included an additional 26 response sheet submittals and comments. The tally on the following page is a summary of all public response sheet submittals.

Meetings and Workshop Purpose

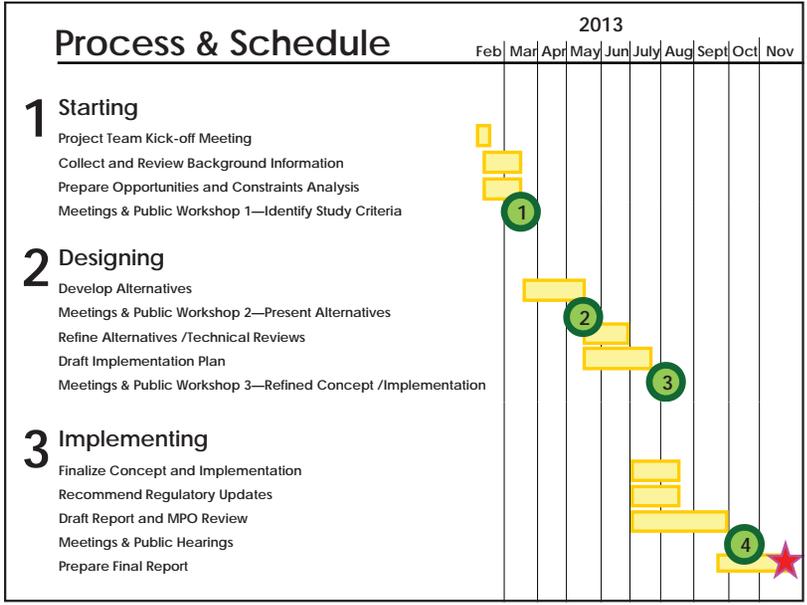
The purpose of the meetings and workshop was to:

- Review Results from Public Workshop #2
- Present Refined Concepts and a Draft Implementation Plan
- Answer Questions
- Identify Preferences for Game-Changer and Essential Projects

Each meeting and the Public Workshop began with the consultants presentation of the project process and schedule (shown above right), a summary of Public Workshop #1 and #2, and a review of the game-changer projects and essential projects identified in the implementation plan. Following the presentation, attendees discussed the projects over table maps. The workshop portion concluded with each table summarizing their discussion. Written response sheets (shown right) were provided to all with the purpose of documenting preferences for four game-changer projects and an additional eight essential projects.

The following pages include:

- Response Sheet Tally (Meetings, Workshop & On-line submissions)
- Response Sheet Comments
- Table Reports



Project Process & Schedule

Response Sheet

Downtown Bismarck SubArea Study
Meetings & Public Workshop #3
August 13-14, 2013

3

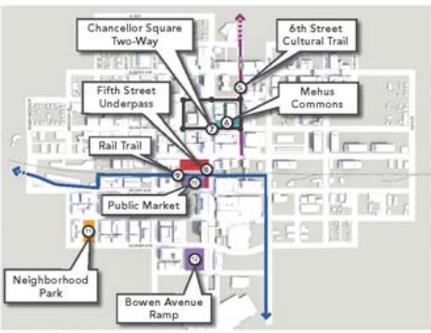
Implementation Strategy

- A. Do you agree with the Game Changers?**
- 1. Main Avenue Yes No
 - 2. Depot Plaza Yes No
 - 3. Fifth Street Yes No
 - 4. Convention Hotel Yes No
- Other Project: _____



Game Changers

- B. Do you agree with the Essential Projects?**
- 5. Sixth Street Cultural Trail Yes No
 - 6. Mehus Commons Yes No
 - 7. Chancellor Square Yes No
 - 8. Fifth Street Underpass Yes No
 - 9. Rail Trail Yes No
 - 10. Public Market Yes No
 - 11. Neighborhood Park Yes No
 - 12. Bowen Avenue Ramp Yes No
- Other Project: _____



Essential Projects

Comments

Please note additional comments below or use the back of this sheet:

Name (optional): _____

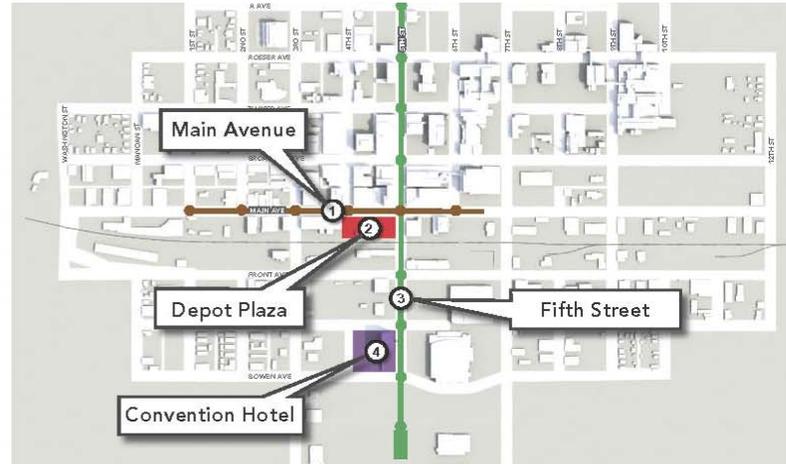
If you need additional time to respond, please return your comments through:
MAIL: 520 SW Yamhill, Roof Suite 4, Portland, OR 97204 **WEB:** www.DowntownBismarckStudy.com/public-meetings

Response Sheet- Game-Changer and Essential Projects

A. Do you agree with the Game Changers?

- 1. Main Avenue Yes No
- 2. Depot Plaza Yes No
- 3. Fifth Street Yes No
- 4. Convention Hotel Yes No

Other Project: _____



Game Changers

B. Do you agree with the Essential Projects?

- 5. Sixth Street Cultural Trail Yes No
- 6. Mehus Commons Yes No
- 7. Chancellor Square Yes No
- 8. Fifth Street Underpass Yes No
- 9. Rail Trail Yes No
- 10. Public Market Yes No
- 11. Neighborhood Park Yes No
- 12. Bowen Street Ramp Yes No



Essential Projects

Response Sheet Tally- Game-Changer Projects

1. Main Avenue

69 Yes **3** No **0**



2. Depot Plaza

64 Yes **8** No **0** Other



3. 5th Street

69 Yes **3** No **0** Other



4. Convention Hotel

68 Yes **4** No **0** Other



Response Sheet Tally- Essential Projects

5. Sixth Street Cultural Trail

57 Yes **12** No **0** Other



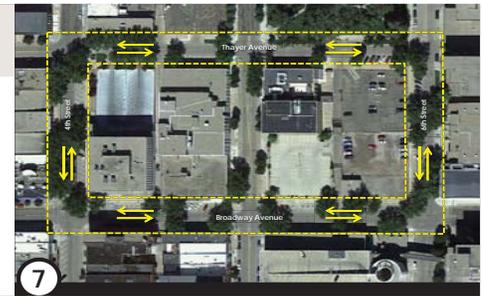
6. Mehus Commons

67 Yes **4** No **0** Other



7. Two-Way Chancellor Square

69 Yes **3** No **0** Other



8. Fifth Street Underpass

65 Yes **6** No **0** Other



Response Sheet Tally- Essential Projects

9. Rail Trail

62 Yes **10** No **0** Other



10. Public Market

56 Yes **12** No **0** Other

Other _____



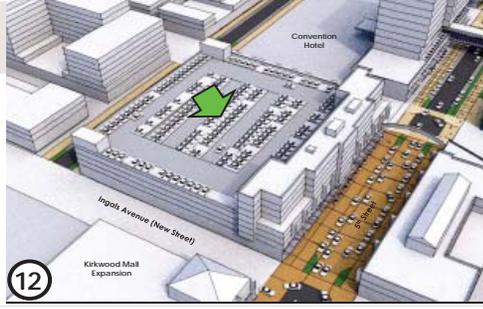
11. Neighborhood Park

59 Yes **11** No **0** Other



12. Bowen Ramp

65 Yes **7** No **0** Other



Response Sheet Comments

Below is a summary of the comments mentioned in the response sheets collected from the committees, stakeholder meetings and Public Workshop #3. and additional online submissions via the project web site.

Main Avenue

- I support Main Avenue with diagonal parking

Depot Plaza

- I do, however feel that the parking solution to the Depot Plaza poses an uninviting atmosphere of parking a few blocks away. North Dakotans are used to close parking- this may deter some from Fiesta's business

Fifth Street

- I would not be in favor of taking 5th Street parking away except for south of the railroad tracks
- 5th Street from Main to Broadway should be bricked or tiled- No driving- Just pedestrian only with playground equipment and waterfalls I like the flexible all season spaces
- I support 5th Street improvements with diagonal parking

Sixth Street Cultural Trail

- The 6th Street cultural Trail is too large of an area to span

Mehus Commons

- I believe the Mehus Commons should be a priority in Phase 1. Not Phase 2
- Mehus Square should be the number one project

5th Street Pedestrian Underpass

- 5th Street Underpass would be car and pedestrians?
- The Fifth Street Underpass would cost too much

Rail Trail

- The Rail Trail is not conducive to mixing BNSF operations, rail traffic, speed and noise with pedestrians

Public Market

- Make BAGA part of the grocer/public market

Bowen Street Ramp

- Back to Parking- I see the long term benefits of the Bowen ramp, but right now, I visualize a parking ramp closer to Main and between the Civic Center and the downtown bars being more able to sell to the public

Other

- Another essential project would be a demographic change to the Patterson Building housing make-up
- Maybe show a plan to 'bookend' the 5th street improvements by adding greenspace and a depot utilizing the existing parking and park-n-ride
- Implement this plan as fast as you can. We need walking space without being run over by bikes and places to sit and pause.
- I like what I hear. I hope private investment steps up to the plate
- Brilliant. Please continue!
- I hope Bismarck will take the current growth environment and capitalize to make it a planned and controlled effort
- Other game-changers should include more green space and public art works
- Another game-changer project should be AN ART MUSEUM- The heritage Center is great but a place for visual works by the Masters- Bismarck
- An additional essential project should be a 'splash pad' and a pedestrian mall
- An additional essential project should be no driving on 5th Street from Main to Broadway- to create a gathering space for families/ playground/kiosk
- An additional game-changer should be a pedestrian zone along 5th street between Main and Broadway

Response Sheet Comments

- I am in full support of this project. I have spent many years in Europe where the downtown/city center is made for the public and life is good for people and businesses thrive. We definitely need this in Bismarck, this city needs to move into the future, and this plan is wonderful. I appreciate the plan of green spaces, bike lanes, and new commercial areas. I'm not worried about parking- as that will get figured out. Most importantly Bismarck needs this to develop further. This renaissance of city centers has been happening all over the US, and its time for Bismarck to catch up
- I would like to see a playground structure for kids in a park downtown or in Mehus Commons or Depot Plaza. A splash pad will also attract a lot of families during the summer months
- Another game-changer should include a parking ramp at 5th and Front sooner rather than later. People will hate losing the parking at Fiesta (but they will get over it)
- I believe the Public Market is a better option if used within the current freight building rather than taking it down
- Great! Exciting plan!
- The top two projects should be the Convention Hotel and the Bowen Ramp

Response Sheet Comments (on-line)

Below is a summary of the comments mentioned in the additional online response sheets collected from the project web site.

Main Avenue

- Main street needs to live up to it's name - it needs to say this is what Bismarck is like
- I had not attended the prior meetings. My initial reaction was "will that work"? but thinking about it and hearing about the traffic impact, and the fact that this will slow things down through the downtown, I like it.
- Have serious doubts as to whether this can handle the traffic flow!
- Bulb-outs at important intersections and well-marked crossings.
- We are already seeing a more vibrant downtown with the addition of outdoor dining. I have seen how successful this has been in many of the major metro areas I have worked in: St. Louis, Denver, Indianapolis, Portland, Cincinnati to name a few. I love it
- Main Ave. (a.k.a. Highway 10) is a major east-west traffic corridor. Bismarckers are privileged to have have free flowing traffic and would be upset to see this change. One might make downtown an enjoyable gathering place much more easily by, for example, creating a pedestrian mall from the four block centered on 4th St and Broadway. At least we'd need to create a new east-west four lane nearby, like Front Ave.
- Will traffic really be able to divert to other streets? I thought an arterial road's function is to move people across town from east to west. There aren't the best routes to redistribute east west traffic in downtown.
- Just be sure that provisions are made for deliveries for the retail and food establishments without backing up traffic in the reduced # of lanes.

Depot Plaza

- Has coordination with the Depot owners occurred? seems like this could be a game changer that would require the relocation of those businesses if they don't have replacement parking adjacent to their property. Has that cost been factored into the plan?

Response Sheet Comments (on-line)

- This is an amazing idea!
- This is the game changer I am, by far, most excited about!
- I am unable to agree with destroying the Wachter Warehouse building for the parking ramp. Is there not a way to incorporate the historical building in to the parking ramp plan?
- This is a fabulous concept! The downtown truly is the heart of a community. I moved here from Fargo in 1980. I was there when West Acres was built, pulling businesses and customers from downtown. I also did some work for the Main Street angling project that finally did in many of the small businesses downtown. It has taken them 30 yrs to recover. We need to act now to prevent that from happening to Bismarck
- I'm all for this project - however I don't know that the privately owned business near this idea would be supportive, nor do I think that the owners of the actual location would sell for \$500K.
- Just picturing finishing up skating with the kids and stopping for a margarita and chips, ha!
- Theoretically sounds wonderful and would have made sense BEFORE things like the Fiesta Villa occupied the old depot building. Unless you think passenger rail is returning to Bismarck and thus the depot will be used as a terminal again, this will drive Fiesta out of the location (and eliminate the nicest outdoor dining locale in Bismarck)!
- I don't know about the practicality of a skating rink unless there is a refrigeration system and a roof/shade structure, but I like the idea of the depot plaza. Just need to keep it clean. I am concerned with the amount of trash and litter around our town. As a citizen, I have been picking up very often and try to pick up something every single day when I walk from parking to my office. We also need the city to step up and do more cleaning.
- Yes IF and ONLY IF the depot remains such and not a strip mall. This was more than a city's depot; it was the regions and needs to remain not a shell but a reality

Fifth Street

- Absolutely...tying the Downtown Distric to the Convention Center and major Retail at Kirkwood would make this Top Regional Destination!
- I like how it moves traffic up and down the area.
- This is extremely important. All the cool cities and towns have this.
- Second priority, after improvements to Main.
- The pedestrian underpass for the rail is never going to happen in Bismarck. Doing this without vehicle underpass for 5th and tracks is unacceptable.
- I like the outside dining today. But when you walk by you are right in the diners space and also have to walk single file
- Somehow there needs to be a winter amenity cover ...

Convention Hotel

- Very important to secure and retain conventions.
- I think this would be a good use of public funds. well leveraged for public/private partnership.
- The most important part in my opinion.
- This one I'm honestly not as sure of, but if it brings more business to downtown, then, that's good.
- I have worked at Alerus Center in Grand Forks connected to Canadd and Rushmore center with connected Holiday Inn, Sioux Falls with Sheraton all critical to successful conventions/conferences rated high by Attendees. I have worked over 30 years on planning group for large conferences in Dallas, Portland, Orlando, Las Vegas, snomass Co, Denver, Kansas City, the key ie to have the host hotel connected to the event center with food service, lounge and lodging for attendees. Close shopping for spouses very important. We have all the ingredients here to make downtown Bismarck a destination for our residents and out of town guests. The stars are aligned!
- Again - this is a much needed upgrade to this area, I am just concerned about how the current private property owners will view the idea of being "progressed over"

Response Sheet Comments (on-line)

- Still doesn't fix the Civic Center issues, in my book.
- The Civic Center is an ABSOLUTELY horrible venue. The seats are uncomfortable, there are trip hazards in the aisles, etc. etc.... My wife and I went to the Boston concert there, and swore that we would never set foot in that dive again! We'll drive to Fargo or beyond before going to something in that venue. If the oil companies need another hotel for their conventions, let them build it!
- Good addition.
- YES if it is solely built and maintained by an entity other than Bismarck City/Citizens

Are there other projects you consider to be Game Changers?

- Seems like you'd have to include the pedestrian underpass as part of depot plaza. It would be hard to accomplish the depot plaza without the ability to walk from the relocated parking.
- Mehus Park
- The walkway under the railroad and the parking ramps.
- I think that the railroad underpass would be a huge game changer, as well. Honestly, I think that most people don't even consider anything South of the railroad to really be part of downtown.
- If the hotel were connected with enclosed walkway to the Kirkwood shopping is imperative to getting year round venues not effected by our harsh winters. I have done many meetings in Minot where hotel/waterpark and shopping are connected and our attendee feedback is always high ratings. The hotel connected to the civic center will bring the conferences and people who spend money, creating consistent customer base for new business ventures
- Commercial development along the southern end of 5th Street approaching Kirkwood Mall.
- The pedestrian trails and bike path connection to the capital, mall and river.
- Public art space!!!! What will we do to make this project aesthetically pleasing and memorable?
- Some yes.

- (1) a combination of skyways and tunnels to connect all of the businesses/blocks/parking ramps. Think Rochester MN! (2) build parking ramps for the downtown employees (including the medical centers) outside of downtown (and let the utilizing businesses pay for them) and use the existing downtown ramps for visitors/customers.
- I like the 6th street cultural trail a lot. I think that could be a huge deal to make downtown an even bigger hub than it is today, especially once the Heritage Center is complete. Would like to see something down with World War Memorial building which would fit great with Belle Mehus Commons.
- Conventions are winter activities in Bismarck. Some of us only go downtown in winter ... you need to entice us ... give us walking clean space AND where does all the snow go that needs to be pushed off the new streets and plazas???

Sixth Street Cultural Trail

- Tying the Capitol Complex & Heritage Center to this core area is a great idea. Nice walk, bike Ride or maybe a trolley that would allow State worker to buzz downtown for a quick lunch without the parking hassle.
- I agree that there should be more bike connectivity in the city however.
- I honestly don't know, and I think it's because I don't know if I understand what it is what it accomplishes exactly, but I don't want to say no, because it is not that I don't like the idea. I just don't fully understand it.
- I like the idea, but unless we turn some of the parking lots into retail or private businesses, it is a waste. Who wants to take a lovely walk from the capital to the McDonald's parking lot? Nothing to do!!
- Not sure...
- Most sensible of all

Mehus Commons

- Lower priority but would be nice to clean that up and connect more with the activity on 5th St

Response Sheet Comments (on-line)

- I love this idea.
- This would be wonderful. People are always gathering before and after shows that the Belle and inevitably, it ends up very crowded and I think this would encourage people to start the night earlier and/or end it later, spending more time (and money) downtown.
- Downtown really needs green space.
- The scale on this rendering is off by a long shot and therefore makes this project look more impactful than it actually would be. You're actually looking at - what? Maybe a 20' -40' depth? I just don't see this location as being ideal for a public square/park.
- Outdoor art!!
- Again, besides the Belle gaining from this I do not see the funds that would be generated by this change?
- Makes much more sense than the fiesta villa location.
- It needs to 'place" and purpose - it would be such a great "off-broadway" Play/music center...especially since it is off Broadway

Chancellor Square

- I think this should start as soon as possible. Why not right now?
- Traffic engineers need to really study this and be sure we do the right thing.
- Either eliminate the one way access or expand it to more than two blocks. was expansion of the one way considered?
- Sooner rather than later.
- One-way traffic REALLY doesn't seem to serve any purpose whatsoever, other than confuse people and make them not want to go downtown.
- Eliminating the the one-ways would generally be good, except that I advocate making the 4-block cross centered on the corner of Broadway and 4th St. a pedestrian mall.
- Traffic pattern change in this area is needed regardless.
- Maybe depends on cost and how they are going to handle traffic volumes
- Not sure it is essential but it is logical

5th Street Pedestrian Underpass

- I'm not sure I understand why this is only a pedestrian underpass. Why not a full underpass including car traffic?
- This would be great but sounds like the cost may be prohibitive ..i hope not as very important to connect to the Convention Center and Kirwood area without the train hassel..especially in the winter.
- Seems like this one is tied to the other game changers. the game changers won't work if they have to cross the railroad tracks at grade
- Should be a game changer
- Absolutely. The railroad is not only a physical, but also a mental barrier between the core of downtown and the South part of downtown. They are very disconnected without this Underpass.
- It should probably be bigger and must have handicap access for wheelchairs.
- Connecting North South side of tracks essential to bring things together with safe walkway for pedestrians
- This is a fantastic idea.
- The train tracks are a major barrier to connecting development south of Main St., but improved on-grade connections at 5th and 3rd could help to resolve this.
- Would hope this would bring the Civic Center traffic to Downtown area after events, more safely without a lot of traffic moving around.
- Also need a fifth street VEHICLE underpass, and a 3rd street one, and a 26th street one and possibly a 12th street one. The vehicle underpasses are more important than the pedestrian. However, hopefully the city can figure out flooding of the underpass before building it (unlike 7th and 9th)
- Yes IF it has place on sides for LOCAL artists AND even behind window area/s for music/chorus during holidays and whenever

Rail Trail

- If not..at least a motorized Trolley car or two to connect to the river, zoo and park areas.
- Good idea and relatively cheap to incorporate

Response Sheet Comments (on-line)

- Again, I'm not sure what this accomplishes, but I'm not entirely opposed to it.
- Better connecting downtown to the river would be an outstanding improvement.
- If it hooks up with the existing trail along the river, this would be an amazing community asset.
- Would like to see more work on this. Needs to be a money maker to be worth it to me.
- Need to hear more about this one. Not against it, but did not fully understand where it would start/stop.
- Yes! Keep Bismarck Bismarck

Public Market

- Great Idea...as soon as possible!
- Great destination and traffic builder and opportunity for small businesses to sell products.
- This would be an empty area for so much of the year. these funds could be better served elsewhere.
- Love!
- I think this is actually a game changer project. I would give much bigger priority to this project than any of the other essential projects. This would fill the void for in the colder months, by providing a cool retail experience that could be appreciated year-round without having to be out in the cold during the winter.
- The railroad warehouse is an important part of Bismarck's character and should not be removed. Bismarck was literally founded by the railroad, and having the building there helps tell that story. I would at least like to have seen evidence that there is enough demand for a year-round farmer's market, especially given our short growing season. If we do need one, then it could surely fit within the standing building.
- This really excites me, a key ingredient to a center location for people to gather and socialize, something that is needed in this disconnected society, human connections are important

- I'm torn on this project because I know that a food co-op is looking for space and would like to locate in the downtown area, but we need to get real. There is a relatively new building on this spot right now that houses everything your presentation suggested be housed in it. Bismarckers are a pragmatic lot and I don't see many people seeing the utility in tearing down something that currently exists in order to rebuild something that is nearly the exact same thing.
- LOVE this!! a facility such as this could be used in various ways year round
- Love this SO much.
- I've been to them in many cities they start good and then devolve into flea market/garage sale/swap meet
- Would depend on what goes in there....
- Public Markets needs to be interspersed throughout the city. AT minimum if one here than one very near Capital Bld area. Not all Bismarckians will or will want to go into dense traffic areas for the simples. I think this would be a money loser

Neighborhood Park

- I said yes, but not sure this is very high on my list.
- OK, but the parkd is not that far away.
- This would be up to the person purchasing the land and redeveloping. i doubt they would buy up land and convert to a park when there's a park across the street.
- I'm really not sure it this is important or not. I certainly hope it would be more than a plot of grass with trees around it. If it actually had something of interest, it would be great. If not, my vote would be no, because it would just be a green empty lot.
- Green space attracts and connects us to living things
- I'm only saying no because I don't see your idea of housing in this area to be realistic.
- I would like to see more amenities in the housing area, such as a continuance of the community garden near the ballpark; a bike path from the housing area to Sertoma Park and to Kirkwood and

Response Sheet Comments (on-line)

Dan's Super Valu. This way, renters can safely bike and walk to buy groceries and shop at Kirkwood. Might even be nice to connect the proposed housing area to Elks Pool/Custer Park with a designated walking/biking trail. What do you think?

- PLEASE!! don't forget the parks
- Lets see the neighborhood start in the right direction first or simultaneously.
- Not sure
- City needs to do a better job of keeping our parks and park parking lots clean. Sad that so many folks can't use the many garbage cans the city has provided. But that's the fact. Need more sanitation engineers.
- Yes BUT rather than I huge --- many small -- it is essential IF want families living downtown BUT in reality they have parks down there -- why not just 'trail' over to "our Eagle"???

Bowen Street Ramp

- Very important part of the equation to provide convenient parking for all the surrounding entities to.
- It would be tied to convention center's needs
- Maybe even a game changer.
- People in North Dakota love to have ample, ample, ample parking.
- Here I'm torn. I'd much rather see the Wachter building restored to its historic appearance than torn down. Are there other parking options?
- Parking will Always be biggest gripe so needed to be addressed
- Yes only if the hotel is a realistic project. No if the hotel doesn't materialize.
- As soon as the mall expansion and hotel projects start
- Only if a fifth street vehicular underpass is built
- YES but top parking isn't smart here ... going to push the snow off or drive it off plus 'roadway' in elements and people in wind ... re-think this remembering other failed top parking areas

Are there other projects you consider to be Essential Projects?

- Downtown housing
- Entertainment district by the mall.
- The Kirkwood Mall and Civic Center Expansion sure would be nice.
- I would like to see something done to the building on the SE corner of Main and 5th. That building is an eye sore and the parking lot is ugly and dirty.
- I am unable to agree with destroying the Wachter Warehouse building for the parking ramp. Is there not a way to incorporate the historical building in to the parking ramp plan? Enhance/improve the performing arts spaces. Get more performing spaces/prep areas/rehearsal space for our vital performing arts groups. The Belle is too small to hold all. Dakota Stage's rented building is falling apart. Northern Plains Dance has a rented space outside the Downtown Area. The Symphony and the Civic Choir have no one consistent space. Invest in culture and the arts.
- Bismarck needs more opportunities to tell it's own history. It was built on the remains of a remarkable earlier civilization (the Mandan nation). It was the scene of remarkable and historically influential political movements like the Non-Partisan League. Preserving places relating to such stories and interpreting them would further strengthen the heart of downtown and enhance tourism.
- This is great start, excellent work!
- Broadway needs to be addressed in this plan. Most of the retail in this area is located along Broadway, and the pedestrian environment is currently below-average.
- Camp Hancock has never been discussed as an important element in the downtown. This is the original town site of Edwinton (Bismarck) and is historically significant for public functions in downtown.
- See my ideas to upgrade the attractiveness of the proposed housing area (#11).
- Love what you have all done. thank you for all the hard work

Response Sheet Comments (on-line)

- We need more parking ramps, period. If the object is to draw people downtown, there needs to be less sprawling parking lots and trashy buildings and new development in these areas. For some reason the interest seems low on the priority list to make that happen?
- You covered it!
- This needs paths - bike and pedestrian to Sertoma Park ... that is as essential as the Capital ...that is family friendly, that has our ZOO!! It is not that far from the "garden/playground and it is huge and already there.

General Comments

- Keep up the good work!
- lots of good ideas. tough to have an action plan if there are not monies allocated to the projects. agree that the action plan needs to get moving right of the bat or else the study, although well put together, if not implemented would be just another document sitting on a shelf somewhere.
- Great ideas, lets keep the momentum going and start putting the Game Changers into action.
- This plan makes me so excited, I don't even have words.
- Love almost all of these ideas. It would be insanely exciting to have a downtown like this in the next five years. I really hope that much, if not, all of this becomes a reality.
- Not looking forward to the bottleneck that going to happen on Main with 3 lanes. 5th street and others like it need more room for delivery trucks.
- I am unable to agree with destroying the Wachter Warehouse building for the parking ramp. Is there not a way to incorporate the historical building in to the parking ramp plan? Enhance/improve the performing arts spaces. Get more performing spaces/prep areas/rehearsal space for our vital performing arts groups. The Belle is too small to hold all. Dakota Stage's rented building is falling apart. Northern Plains Dance has a rented space outside the Downtown Area. The Symphony and the Civic Choir have no one consistent space. Invest in culture and the arts.
- Thanks so much for all your hard work. Most of the ideas you've developed look excellent!
- I really believe the Bismarck as one of the larger cities in ND has the most potential to be the best "community" in the region before it spreads itself out to the North which is fine -- but I almost always go to the "heart" of a city - the downtown that "differentiate" it from the box store, franchises that are everywhere - the same.
- This is a great study and I appreciate all your hard work. I look forward to seeing any of the projects come to fruition.
- I am so pleased with this plan, and am excited to see it implemented. As a downtown resident, I am especially interested in seeing the proposed housing area (SW of downtown in the plan) done well. I'll be keeping my eyes on the housing aspect of the plan, particularly looking for ways to make this south-of-the-tracks area attractive to potential housing developers.
- So grateful that people are open to seeing this as an important investment to the cultural life of our city
- Great to see the thoughts going into this plan. Would like to really see development take off in this area.
- Love the whole plan, perfect time to get started too.
- Good meeting. I think a little more background on each project and scope would have been nice for those of us who did not attend the first two. Or, having now been to the web site, promoting that people watch those videos on the first two meetings before attending the third. But I understand you have to keep the meetings reasonable in length. Well run.
- Frankly, the city needs to pay a few cents per home and mail a postcard saying this study is one, where, online ability. Once more it 'appears' the people are considered too dumb to have an opinion and it 'appears' the commissioners did not learn their lesson. Their arrogance will be the stopper.

Table Reports

Below is a summary of the comments presented by members of each table during Public Workshop #3.

Table 1

- The Public Market is a concern, due to the historic structure there today

Table 2

- The main theme for our group was that there is so much potential for something, we are glad this is a thoughtful plan
- We support the pedestrian friendly elements and like the public square at the Depot

Table 3

- We liked the Game-Changers
- The sixth street cultural trail is important, but maybe underdeveloped
- Is the rail trail pedestrian and bike, as well as, passenger rail?
- If I won the lottery I would pay for all of this!

Table 4

- Rapid City and Market Square is a great example of a public space that includes art
- Our plan should include details that make us unique. You have brought some of this to the table
- Incorporate art on light boxes as a part of the plan
- The Public Market should include art therapy

Table 5

- We need spaces for Mom's to go with kids. This plan is wonderful
- Some of us spent time in Europe, people there are together and out in public spaces
- We should incorporate art into downtown
- We need to rally people behind this plan. People fear change... change can be better for Bismarck

Table 6

- We had a contentious group. Change is difficult and fearful. We are fiscally conservative in Bismarck
- One on one people want to see this place more beautiful and change is inevitable. The west side of the state is not ahead of the curve
- This is a vision for our future growth and long overdue. We argue the details not the intent
- With art you have to be careful and attract to more than specific groups. I like downtown today
- We support two-way traffic
- We could use more greenspace and reuse of existing places like Custer Park for an ice skating rink

General Comments

- I am the newest business relocating here to downtown- Montana Furniture on Main Avenue. North Dakota will be rebuilt from the ground up. Today you are starting from what is working in downtown today and I appreciate that.
- One thing I recognized is that downtown is so compact-- but there is no where to sit or assemble.
- Stay ahead of the game here!
- Are we losing the character of Bismarck?
- I do like Chancellor Square two-way. The 1960's needs to go!
- In your plan for Missoula you have diagonal parking...you have parallel in this plan. I don't like it.
- The big question...How do we pay for this? TIF and Ren. Zone are already taken. Folks don't want to raise taxes.
- In the Neighborhood Park you have limited space for snow collection or rain.
- Is it unique to have a plan where change is too drastically different?
- Is there an area in this pan for a playground or splash pad?

REFINED TRAFFIC OPERATIONS REVIEW SUMMARY



Agenda/3-Lane Discussion

Downtown Bismarck Traffic Operations Review Project Status

- Previous Discussion (June 7th - Traffic Data/Quiet Rail)
- City/NDDOT Comments to Traffic Operations Report
 - Need to review future conditions
 - Truck data/routes
 - Emergency vehicle access

Data Collection

- SRF developed plan (collected by SRF and City)
- All data collected between May 21 and June 6
 - Historical turning movement counts (2 intersections)
 - A.M. and p.m. peak hour intersection turning movement counts (6 intersections)
 - 15-minute peak period pulse counts (5 intersections)
 - 24-hour road tube data to collect vehicle classification (3 locations)

Existing Traffic Volumes

- A.M. versus p.m. peak hour (p.m. peak hour is busiest (i.e. worst-case))
- Truck volumes along Front Avenue - range from 2 percent to 4 percent
- Daily traffic volumes (estimated from turning movement counts/review of 2012 ADT data)
 - **Main Avenue (4-lane undivided): 8,000 vpd (west) to 12,500 vpd (east)**
 - **Front Avenue (3-lane undivided): 6,200 vpd (west) to 3,500 vpd (east)**
- Planning level corridor capacity thresholds by facility type

Facility Type	Daily Capacity Ranges (ADT)	Approaching Capacity (85% of ADT) ⁽¹⁾
Two-lane undivided urban	8,000 - 10,000	8,500
Three-lane undivided urban ⁽²⁾ (two-lane divided with turn lanes)	15,000 - 17,000	14,450
Four-lane undivided urban	18,000 - 22,000	18,700
Five-lane undivided urban ⁽²⁾ (four-lane divided with turn lanes)	28,000 - 32,000	27,200

⁽¹⁾ Values based on the upper limit of daily capacity range

⁽²⁾ The lower value of the daily capacity range is applied to the undivided section; the upper value of the daily capacity range is applied to the divided section.

3-Lane Concept Assumptions

- Assumed 3-lane section would begin/end between 6th Street and 7th Street
- No right-turn lanes were assumed, unless they already exist (3rd Street)
- 3-lane facility on 5th Street
- Optimized signal timing

Existing Operations (4-lane versus 3-lane)

- Analyzed using Synchro/SimTraffic software
- Reviewed intersections operations (i.e. level of service, queuing) and corridor travel times
- Focused on p.m. peak hour operations (i.e. worst-case condition)
- Travel time results summarized in the following table:

Roadway	Eastbound Corridor Travel Time			Westbound Corridor Travel Time		
	4-Lane	3-Lane	Change	4-Lane	3-Lane	Change
Main Avenue	160 sec.	155 sec.	- 5 sec.	145 sec.	165 sec.	+ 20 sec.
Front Avenue	195 sec.	200 sec.	+ 5 sec.	200 sec.	205 sec.	+ 5 sec.

Note: Travel times based on SimTraffic micro-simulation.

- Travel times along Main Avenue and Front Avenue are not significantly impacted due to conversion.
- All intersections operate at an acceptable (LOS C or better) under both the 4-lane and 3-lane scenarios.

Year 2035 Traffic Forecasts

- Reviewed year 2035 daily traffic forecasts
 - Developed as part of the Bismarck-Mandan LRTP
 - Growth equates to approximately one (1) percent annually
- Applied growth rate to the existing peak hour volumes to develop year 2035 peak hour turning movement counts
- Approximate year 2035 daily traffic volumes
 - **Main Avenue: 10,500 vpd (west) to 17,900 vpd (east)**
 - **Front Avenue: 7,750 vpd (west) to 3,900 vpd (east)**
- The Main Avenue daily volumes are over the planning-level thresholds for a three-lane facility (i.e. two-lane facility with turn lanes)

Year 2035 Operations (4-lane versus 3-lane)

- Focused on p.m. peak hour operations (i.e. worst-case condition)
- Travel time results summarized in the following table:

Roadway	Eastbound Corridor Travel Time			Westbound Corridor Travel Time		
	4-Lane	3-Lane	Change	4-Lane	3-Lane	Change
Main Avenue	175sec.	185 sec.	+ 10 sec.	175 sec.	> 5 min.	+ 2 min.
Front Avenue	250 sec.	275 sec.	+ 25 sec.	200 sec.	180 sec.	- 20 sec.

Note: Travel times based on SimTraffic micro-simulation.

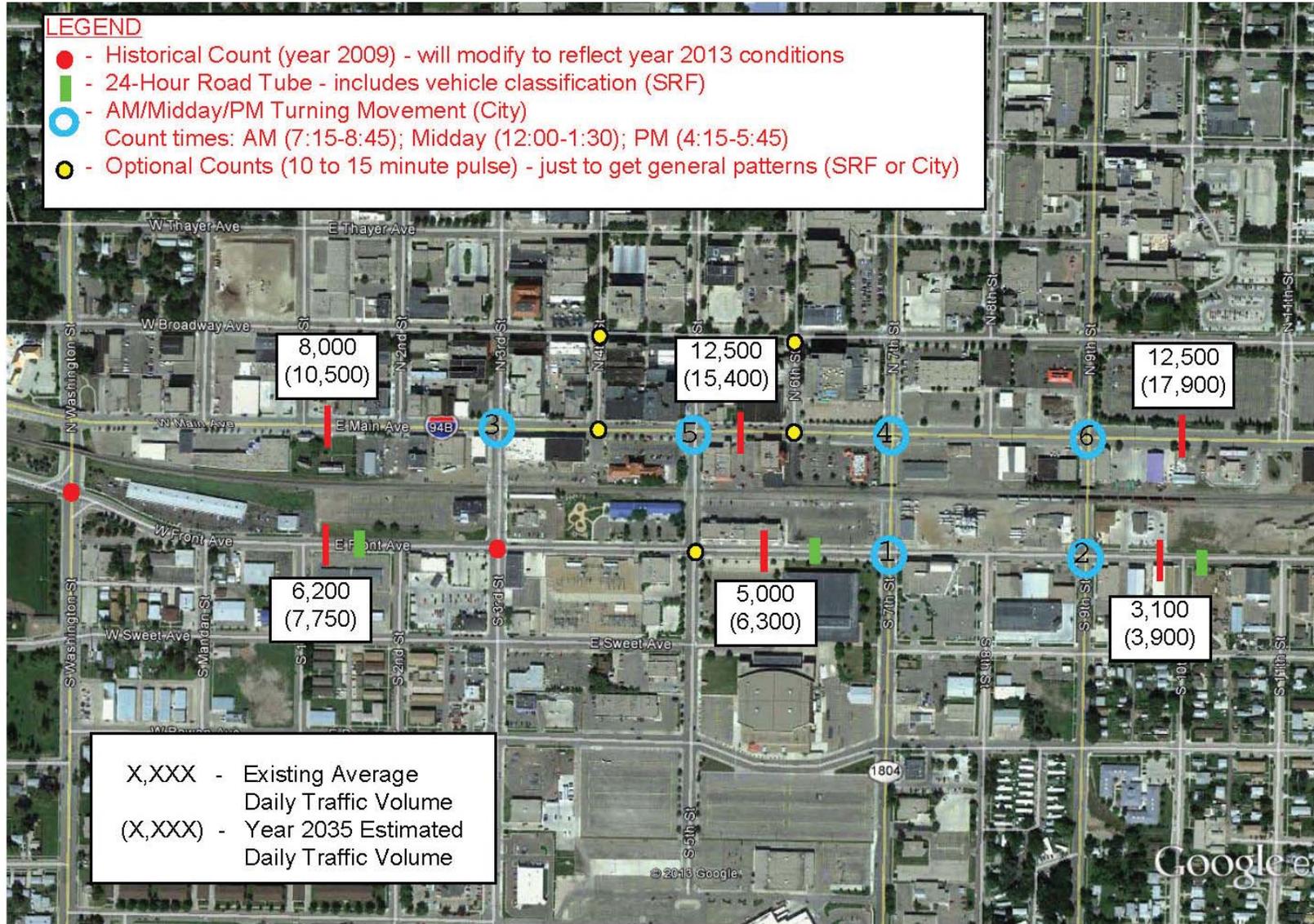
- Eastbound travel times (along Main Avenue and Front Avenue) and westbound travel times (along Front Avenue) are not significantly impacted due to conversion.
- Westbound travel times along Main Avenue significantly increase due to conversion and are considered unacceptable.
- All intersections operate at an acceptable (LOS C or better) under the 4-lane scenario.
- Under the 3-lane scenario, the westbound through volume is too high and can't be accommodated through a single lane (e.g. LOS E operations at 7th Street).

Considerations to make a 3-lane work

- Achieve volume diversion of approximately 1,500 to 2,000 vpd (a reduction in westbound volume is key)
 - Must leave Front Avenue open
 - Allow two-way traffic on Broadway Avenue
 - Extend Broadway Avenue to Main Avenue
- Alternative improvements to consider:
 - Access modification at 4th Street (right-in/right-out or three-quarter) and 6th Street (three quarter), including removing the traffic signals
 - Addition of right-turn lanes along Main Avenue
 - Modification of 3rd Street to have two through lanes in the northbound/southbound direction (i.e. shared left/through and shared through/right lanes)

LEGEND

- - Historical Count (year 2009) - will modify to reflect year 2013 conditions
- - 24-Hour Road Tube - includes vehicle classification (SRF)
- - AM/Midday/PM Turning Movement (City)
Count times: AM (7:15-8:45); Midday (12:00-1:30); PM (4:15-5:45)
- - Optional Counts (10 to 15 minute pulse) - just to get general patterns (SRF or City)

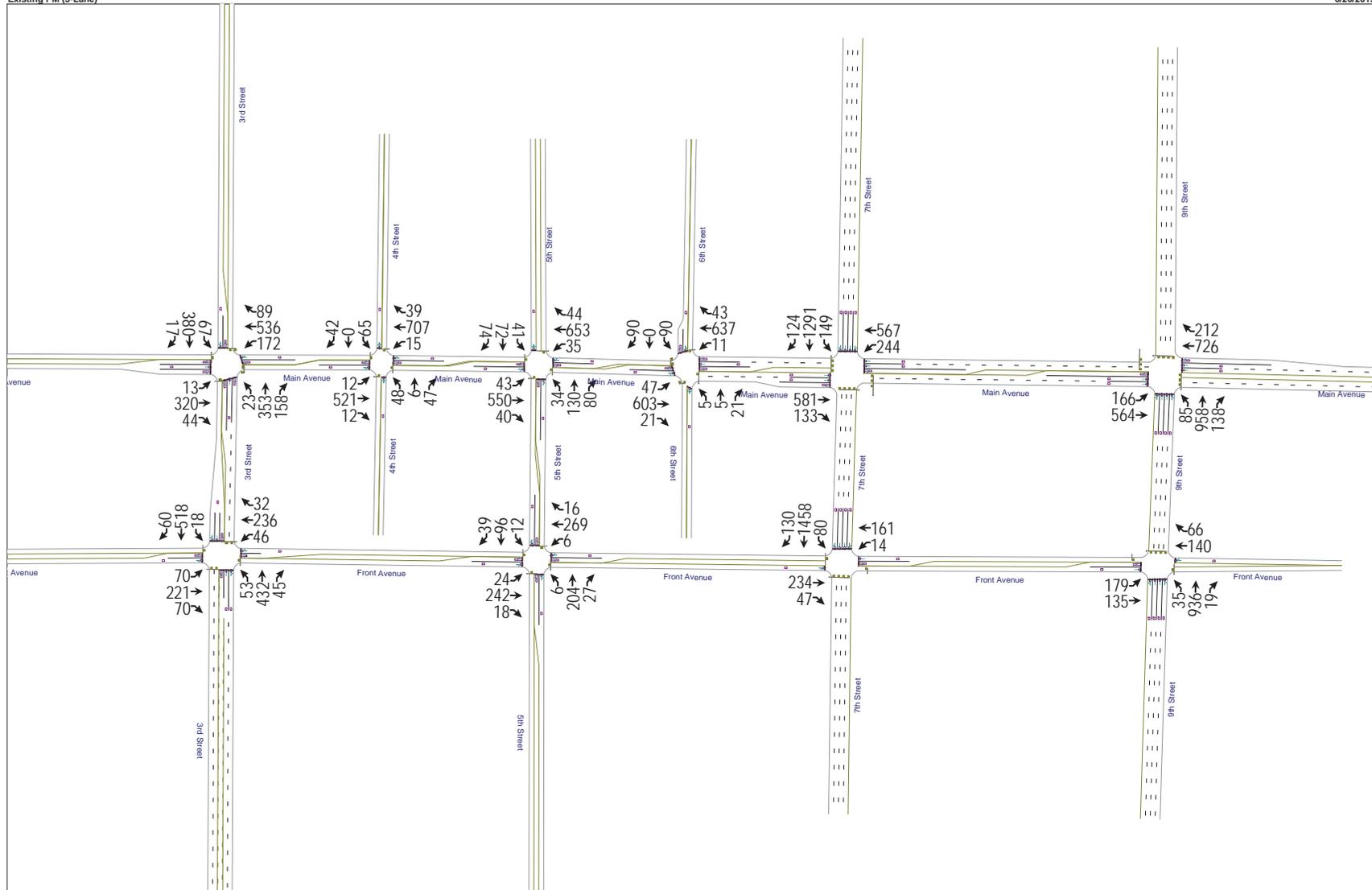


Google earth

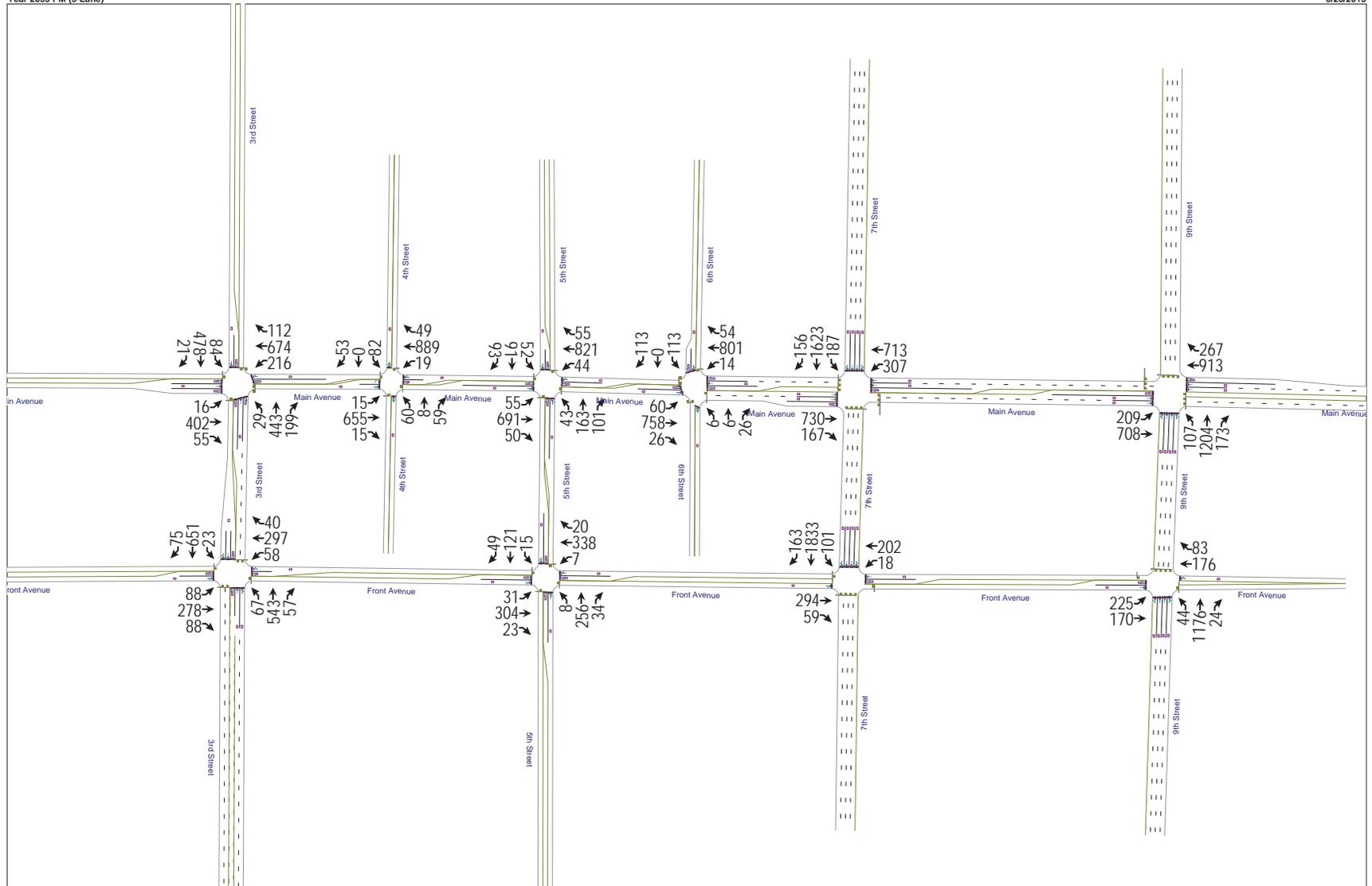
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REFINED TRAFFIC OPERATIONS MEMO



Memorandum

SRF No. 8161

To: Jason Graf, Associate Principal
Crandall Arambula PC

From: Matthew Pacyna, PE, Associate

Date: July 29, 2013

Subject: Downtown Bismarck Subarea Study - Traffic Operations Review Addendum

Introduction

As requested, SRF completed an addendum in response to comments received from the City and North Dakota Department of Transportation (NDDOT) regarding the Downtown Bismarck Subarea Study - Traffic Operations Review dated May, 1, 2013 (see Appendix). The initial traffic operations review provided a planning-level analysis of various Downtown Bismarck redevelopment concepts and their associated impacts. The main concern raised as part of the review was how the Main Avenue Road Diet (i.e. four-lane to three-lane conversion) would operate, particularly from both a short- and long-term level of service and queuing perspective. Therefore, this addendum focuses on the detailed operations analysis, but also addresses potential heavy commercial/emergency vehicle access and future transit center locations. The following information summarizes the assumptions and analysis completed.

Main Avenue Road Diet

The Main Avenue Road Diet concept was assumed to reconfigure Main Avenue from west of 3rd Street to a location between 6th Street and 7th Street. This reconfiguration would consist of converting the existing four-lane undivided roadway to a three-lane (i.e. two-lane with a center left turn lane) roadway. It should be noted that for purposes of this additional analysis, no right-turn lanes were assumed unless they already exist. Furthermore, 5th Street was also assumed to be reconfigured as a three-lane facility as part of this analysis.

Existing Conditions

Data Collection

To determine how the potential Main Avenue Road Diet would impact existing operations (i.e. short-term conditions), traffic data was collected within the study area to establish a baseline level of operation. This data included vehicular intersection turning movement and pedestrian counts, which were collected by a combination of SRF and City staff during the a.m. and p.m. peak periods between May 21, 2013 and June 6, 2013 at the following intersections:

- Main Avenue/3rd Street
- Main Avenue/9th Street
- Main Avenue/5th Street
- Front Avenue/7th Street
- Main Avenue/7th Street
- Front Avenue/9th Street

These turning movement counts were supplemented with manual 15-minute pulse counts and historical (i.e. year 2009) data as noted in the following locations. This data was modified to reflect year 2013 a.m. and p.m. peak hour conditions, accordingly. This data collection approach was selected to minimize data collection efforts while acquiring sufficient data to accurately determine operational impacts associated with the potential conversion.

Average daily traffic (ADT) volumes, including vehicle classification data, was collected at the following locations:

- Front Avenue between 1st Street and 2nd Street
- Front Avenue between 5th Street and 7th Street
- Front Avenue between 10th Street and 11th Street

Furthermore, historical and year 2012 annual average daily traffic (AADT) volumes, provided by the NDDOT, were also collected. It should be noted that the existing heavy commercial vehicle percentages along Front Avenue ranged from approximately two to four percent. The geometrics, traffic controls, and volumes within the study area for the existing four-lane and proposed three-lane configurations are shown in Figures 1 and 2, respectively.

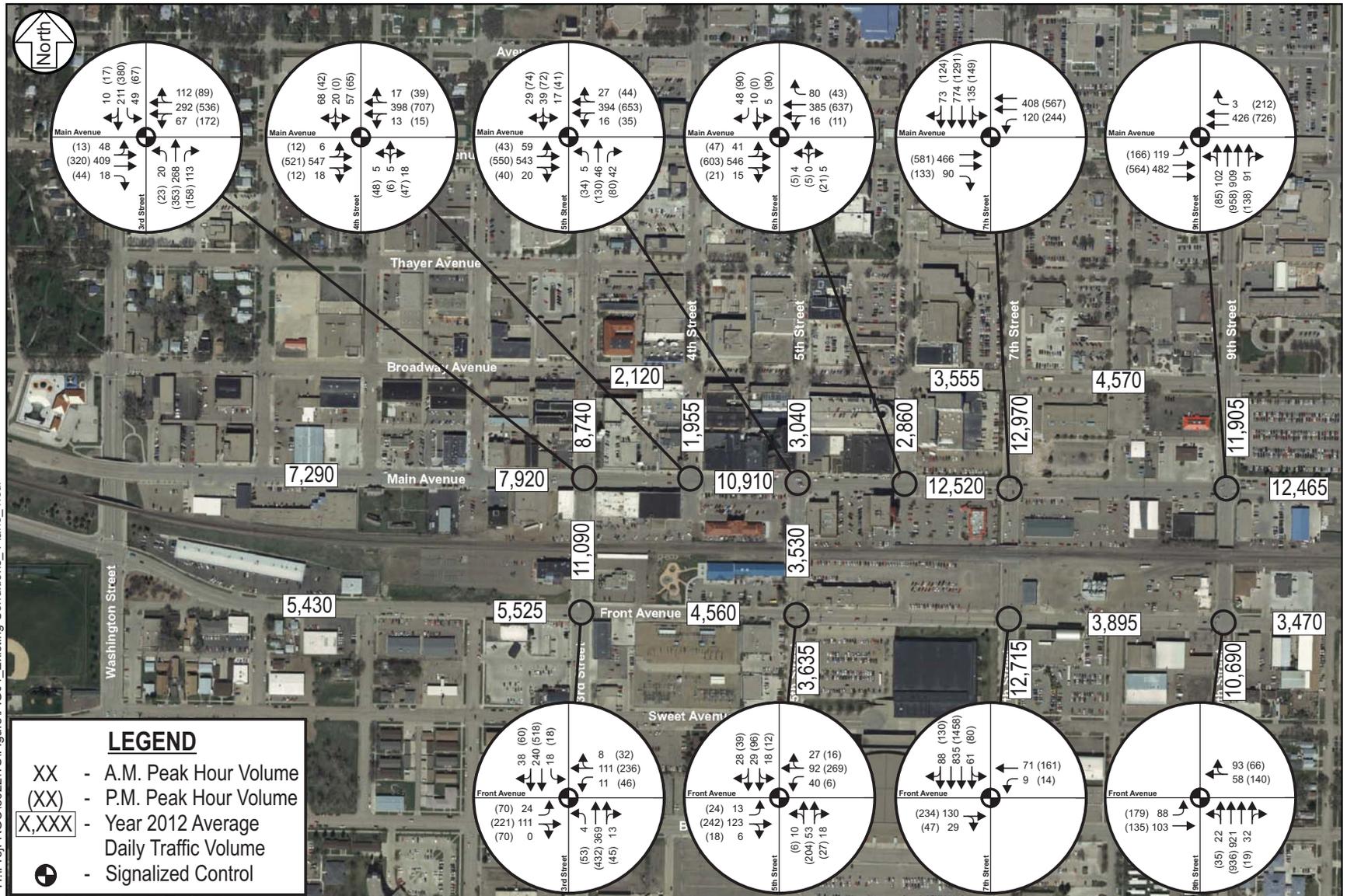
Intersection Capacity Analysis

To determine the short-term operational difference between the existing four-lane and proposed three-lane configurations, a detailed operations analysis was conducted. All intersections were analyzed using the Synchro/SimTraffic software. Capacity analysis results identify a Level of Service (LOS) which indicates how well an intersection is operating. Intersections are given a ranking from LOS A through LOS F. The LOS results are based on average delay per vehicle, which corresponds to the delay threshold values shown in Table 1. LOS A indicates the best traffic operation and LOS F indicates an intersection where demand exceeds capacity. LOS A through C is generally considered acceptable by drivers in the bismarck area. It should be noted that optimized timing was assumed for each scenario.

Table 1
Level of Service Criteria for Signalized and Unsignalized Intersections

LOS Designation	Signalized Intersection Average Delay/Vehicle (seconds)	Unsignalized Intersection Average Delay/Vehicle (seconds)
A	< 10	< 10
B	10-20	10-15
C	20-35	15-25
D	35-55	25-35
E	55-80	35-50
F	80 <	50 <

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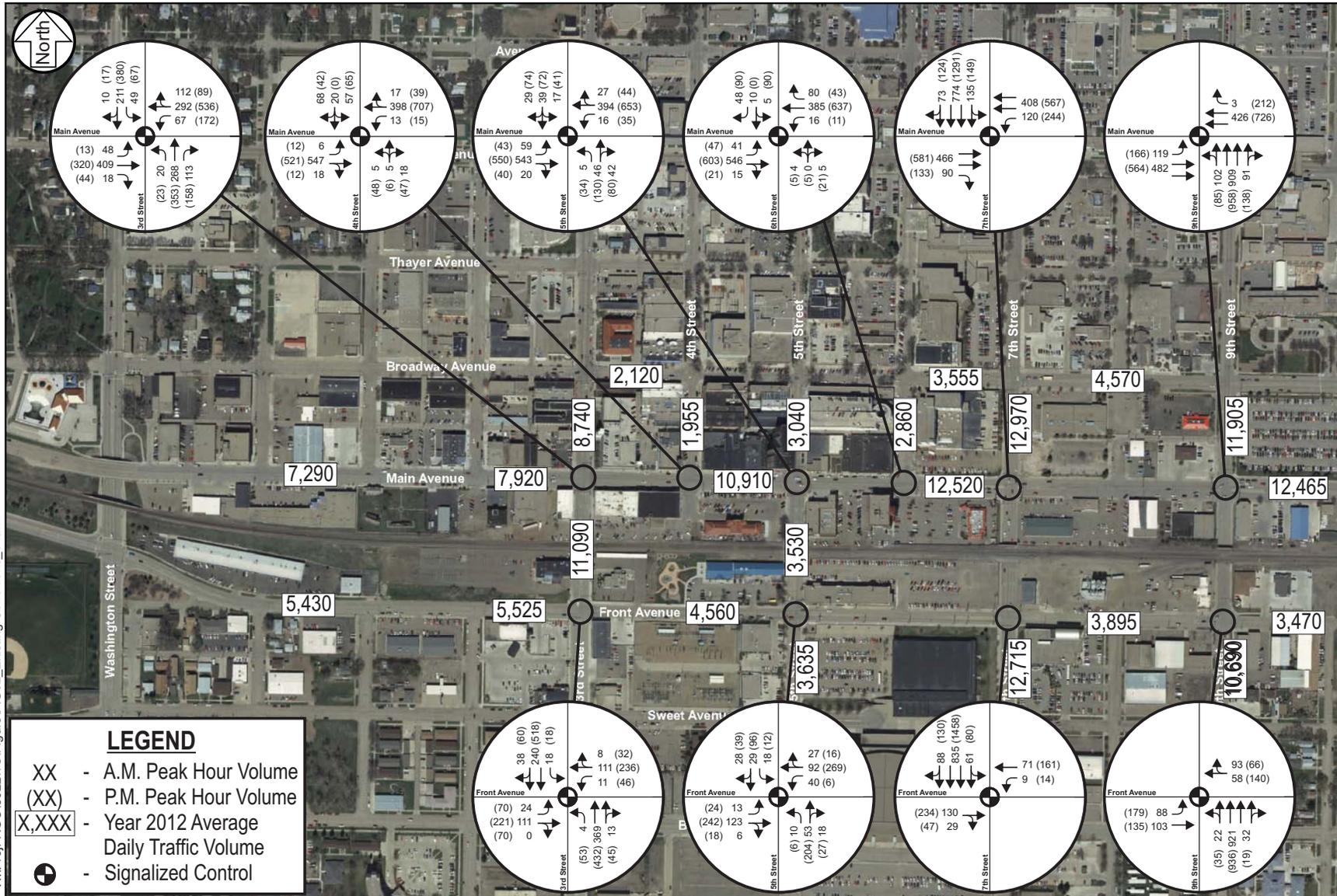


Existing Conditions (Four-Lane Configuration)

Downtown Bismarck Subarea Study
Bismarck, North Dakota

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Figure 1



Existing Conditions (Three-Lane Configuration)

Downtown Bismarck Subarea Study
Bismarck, North Dakota

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Figure 2

Results of the existing intersection capacity analysis comparison between the current four-lane and proposed three-lane configurations shown in Table 2 indicate that each roadway layout would provide acceptable intersection operations from a level of service perspective. In general, the operational differences between the two configurations are relatively minor during the existing a.m. and p.m. peak hours. However, it should be noted that minor westbound queues are expected to occasionally (i.e. approximately five percent of the p.m. peak hour) impact adjacent intersections under the three-lane configuration during the p.m. peak hour. These queues are primarily the result of the close intersection spacing and could potentially be mitigated through a more detailed signal coordination analysis. Furthermore, the three-lane conversion and other area roadway improvements (i.e. Chancellor Square modification)

Table 2
Existing Peak Hour Capacity Analysis Comparison

Intersection	Level of Service (Delay*)			
	A.M. Peak Hour		P.M. Peak Hour	
	Four-Lane	Three-Lane	Four-Lane	Three-Lane
Main Avenue/3rd Street	B (19 sec.)	B (17 sec.)	C (26 sec.)	C (23 sec.)
Main Avenue/4th Street	A (7 sec.)	A (8 sec.)	A (8 sec.)	B (13 sec.)
Main Avenue/5th Street	A (7 sec.)	A (8 sec.)	B (13 sec.)	B (17 sec.)
Main Avenue/6th Street	A (6 sec.)	A (7 sec.)	A (9 sec.)	B (12 sec.)
Main Avenue/7th Street	C (27 sec.)	C (21 sec.)	C (31 sec.)	C (29 sec.)
Main Avenue/9th Street	C (26 sec.)	B (18 sec.)	C (23 sec.)	B (19 sec.)
Front Avenue/3rd Street	B (10 sec.)	B (11 sec.)	B (18 sec.)	B (15 sec.)
Front Avenue/5th Street	B (18 sec.)	B (19 sec.)	C (22 sec.)	C (20 sec.)
Front Avenue/7th Street	A (6 sec.)	A (7 sec.)	A (9 sec.)	B (10 sec.)
Front Avenue/9th Street	A (9 sec.)	B (10 sec.)	B (15 sec.)	B (18 sec.)

* Represents the overall intersection delay.

Travel Time Analysis

In addition to the peak hour operations analysis, corridor travel times along Main Avenue and Front Avenue were also reviewed. SRF evaluated the travel time using Synchro/SimTraffic under both the existing four-lane and proposed three-lane configurations along Main Avenue. Only the p.m. peak hour was reviewed since it represents the worst-case condition. The travel time impacts during the a.m. peak hour are expected to be negligible. The comparison shown in Table 3 indicates that Main Avenue and Front Avenue are not expected to be significantly impacted by the proposed three-lane configuration.

Table 3
Existing Travel Time Comparison

Roadway	Eastbound Corridor Travel Time			Westbound Corridor Travel Time		
	Four-Lane	Three-Lane	Change	Four-Lane	Three-Lane	Change
Main Avenue	160 sec.	155sec.	- 5 sec.	145 sec.	165 sec.	+ 20 sec.
Front Avenue	195 sec.	200 sec.	+ 5 sec.	200 sec.	205 sec.	+ 5 sec.

Note: Travel times based on SimTraffic micro-simulation.

It should be noted that that emergency vehicle access/response times were mentioned as a particular concern regarding the potential conversion of Main Avenue. Based on the existing travel time analysis, the response times for vehicles currently using Main Avenue are not expected to be significantly impacted. Although the travel times are shown to increase slightly during the p.m. peak hour, this analysis does not account for Emergency Vehicle Preemption (EVP) systems currently used, which can significantly improve travel time.

Traffic Forecasts

To determine the long-term impacts of the proposed three-lane configuration, traffic forecasts were developed for year 2035 conditions. Year 2035 ADT volumes were developed as part of the Bismarck-Mandan Long Range Transportation Plan (LRTP), which indicates an average annual growth rate of approximate one-percent. It should be noted that the City discussed the potential for an annual growth rate of approximately four percent within the Bismarck-Mandan area. However, given the current density within the study area and expected growth towards the outer City limits, a four percent growth rate appears high for the downtown area. Therefore, the one-percent annual growth rate was applied to the existing volumes to develop year 2035 peak hour forecasts. The year 2035 geometrics, traffic controls, and volumes within the study area for the existing four-lane and proposed three-lane configurations are shown in Figures 3 and 4, respectively.

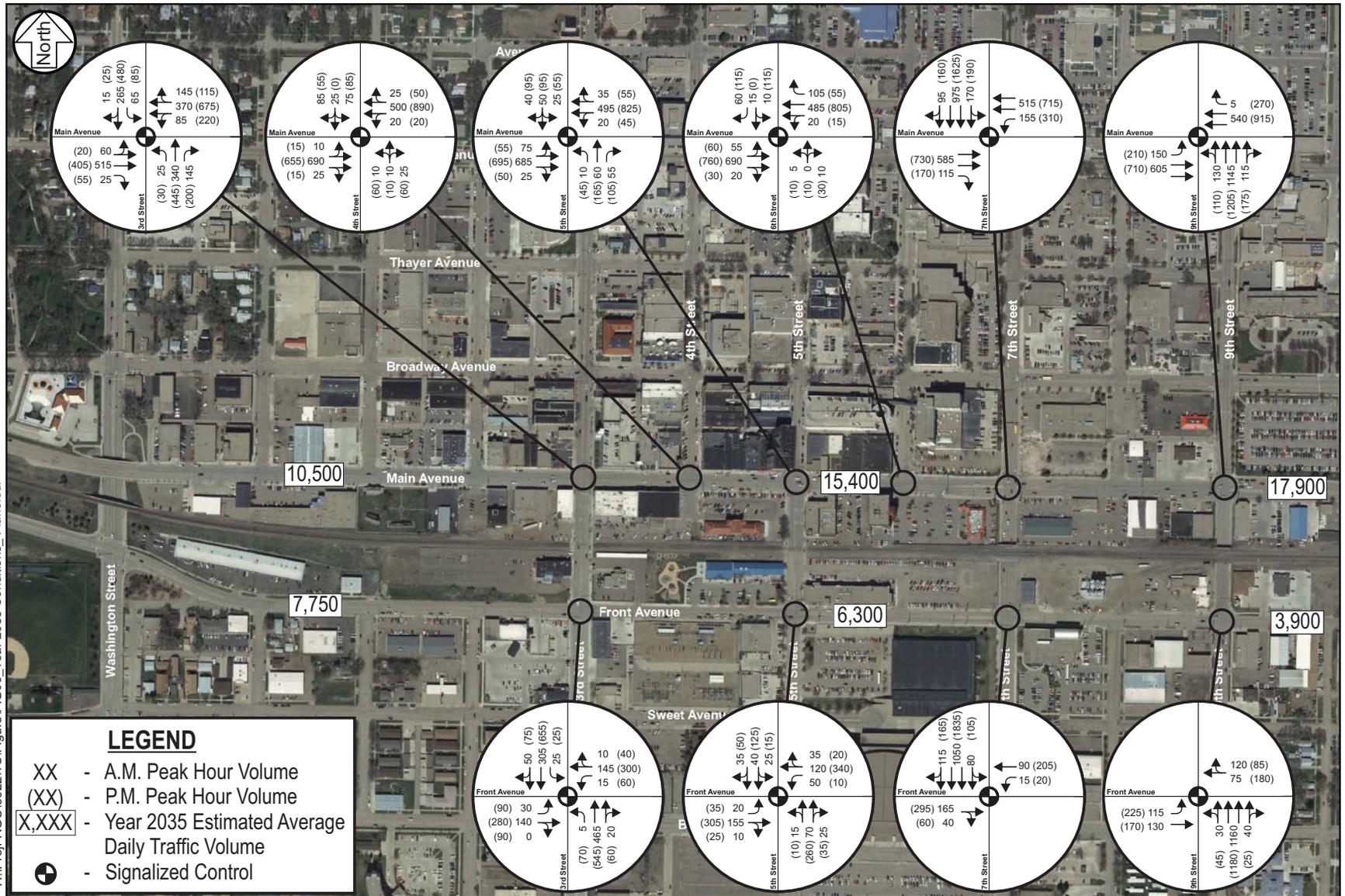
Review of the year 2035 daily traffic forecasts indicate that volumes along Main Avenue are expected to range from 10,500 vpd to 17,900 vpd. Along Front Avenue volume are expected to range from 3,900 vpd to 7,750 vpd. Based on planning level capacity thresholds discussed as part of the previous analysis, Main Avenue is expected to be over capacity if reconfigured as a three-lane facility. However, a more detailed analysis was completed to confirm the capacity results and identify potential mitigation. It should be noted that this additional analysis does not account for any diversion, which would be likely to occur.

Year 2035 Conditions

Therefore, the existing four-lane and the proposed three-lane configurations along Main Avenue were analyzed under year 2035 conditions. Once again, a detailed traffic operations analysis was conducted using the Synchro/SimTraffic software.

Results of the year 2035 operations analysis shown in Table 4 indicate that all study intersections are expected to operate at an acceptable overall LOS C or better during the a.m. and p.m. peak hours, except along Main Avenue at 7th Street and 9th Street. These intersections are expected to operate at LOS E during the p.m. peak hour under the three-lane configuration. The poor operations are a result of westbound vehicles queuing as they approach the three-lane segment, which impacts the adjacent intersections at 7th Street and 9th Street. It should be noted that the long-term operations indicate that diversion away from Main Avenue would likely occur, but is not considered as part of this analysis. Preliminary review of adjacent streets (i.e. Front Avenue) indicates there is sufficient capacity to account for any diversion. However, to achieve additional diversion from Main Avenue, other improvements which are discussed later within this document, should be considered.

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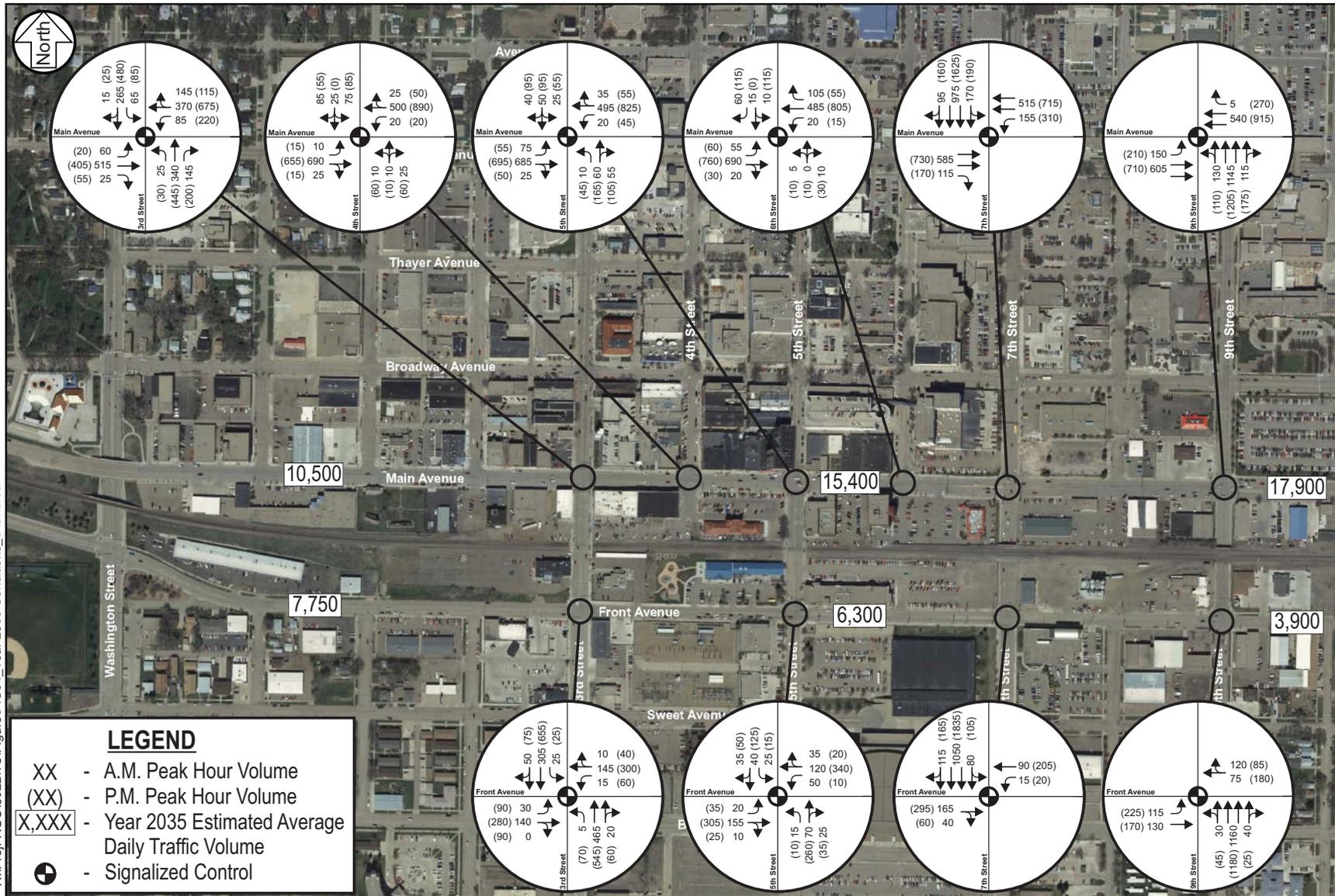


Year 2035 Conditions (Four-Lane Configuration)

Downtown Bismarck Subarea Study
Bismarck, North Dakota

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Figure 3



Year 2035 Conditions (Three-Lane Configuration)

Downtown Bismarck Subarea Study
Bismarck, North Dakota

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July 2013

Figure 4

Table 4
Year 2035 Peak Hour Capacity Analysis Comparison

Intersection	LOS (Delay*)			
	A.M. Peak		A.M. Peak	
	Four-Lane	Four-Lane	Four-Lane	Four-Lane
Main Avenue/3rd Street	B (18 sec.)	C (20 sec.)	C (32 sec.)	C (30 sec.)
Main Avenue/4th Street	A (8 sec.)	B (11 sec.)	B (10 sec.)	C (22 sec.)
Main Avenue/5th Street	A (9 sec.)	B (10 sec.)	B (17 sec.)	C (27 sec.)
Main Avenue/6th Street	A (7 sec.)	A (8 sec.)	B (11 sec.)	C (27 sec.)
Main Avenue/7th Street	C (25 sec.)	C (22 sec.)	C (30 sec.)	E (56 sec.)
Main Avenue/9th Street	C (21 sec.)	C (21 sec.)	C (23 sec.)	E (64 sec.)
Front Avenue/3rd Street	B (12 sec.)	B (11 sec.)	C (20 sec.)	B (18 sec.)
Front Avenue/5th Street	B (13 sec.)	C (22 sec.)	B (16 sec.)	C (21 sec.)
Front Avenue/7th Street	A (7 sec.)	A (9 sec.)	B (16 sec.)	B (17 sec.)
Front Avenue/9th Street	B (11 sec.)	B (11 sec.)	C (29 sec.)	C (31 sec.)

* Represents the overall intersection delay.

Travel Time Analysis

In addition to the peak hour operations analysis, corridor travel times along Main Avenue and Front Avenue were also reviewed. SRF once again evaluated the travel time using Synchro/ SimTraffic under both the existing four-lane and proposed three-lane configurations along Main Avenue. Only the p.m. peak hour was reviewed since it represents the worst-case condition. Travel time impacts during the a.m. peak hour are expected to be negligible. The travel time comparison shown in Table 5 indicates that westbound travel time along Main Avenue is expected to be significantly impacted during the p.m. peak hour due to the proposed three-lane configuration. This corresponds with the intersection capacity analysis previously identified. It should be noted that the travel time along eastbound Main Avenue and both directions along Front Avenue are not expected to be significantly impacted by the proposed conversion.

Table 5
Year 2035 Travel Time Comparison

Roadway	Eastbound Corridor Travel Time			Westbound Corridor Travel Time		
	Four-Lane	Three-Lane	Change	Four-Lane	Three-Lane	Change
Main Avenue	175sec.	185 sec.	+ 10 sec.	175 sec.	> 5 min.	+ 2 min.
Front Avenue	250 sec.	275 sec.	+ 25 sec.	200 sec.	180 sec.	- 20 sec.

Note: Travel times based on SimTraffic micro-simulation.

Three Lane Mitigation Options

Based on the poor operation and significant impacts to the westbound travel time identified during the year 2035 p.m. peak hour conditions with the proposed three-lane configuration, motorists are expected to divert from Main Avenue to alternative routes. To achieve acceptable operations along Main Avenue, approximately 1,500 vpd to 2,000 vpd would need to divert to alternative routes, particularly in the westbound direction. To ensure that the adjacent corridors can adequately support the potential diversion from Main Avenue, the following should be considered:

- Front Avenue must remain open to two-way traffic
- Allow two-way traffic on Broadway Avenue (i.e. Chancellor Square conversion)
- Extend/connect Broadway Avenue to Main Avenue

Furthermore, the following additional improvements should also be considered:

- Access modification at 4th Street (right-in/right-out or three-quarter) and 6th Street (threequarter), including removing the traffic signals
 - This would likely improve vehicular operations, but would be less pedestrian friendly
- Addition of right-turn lanes along Main Avenue, where appropriate
- Modification of 3rd Street to have two through lanes in the northbound/southbound direction (i.e. shared left/through and shared through/right lanes)

Transit

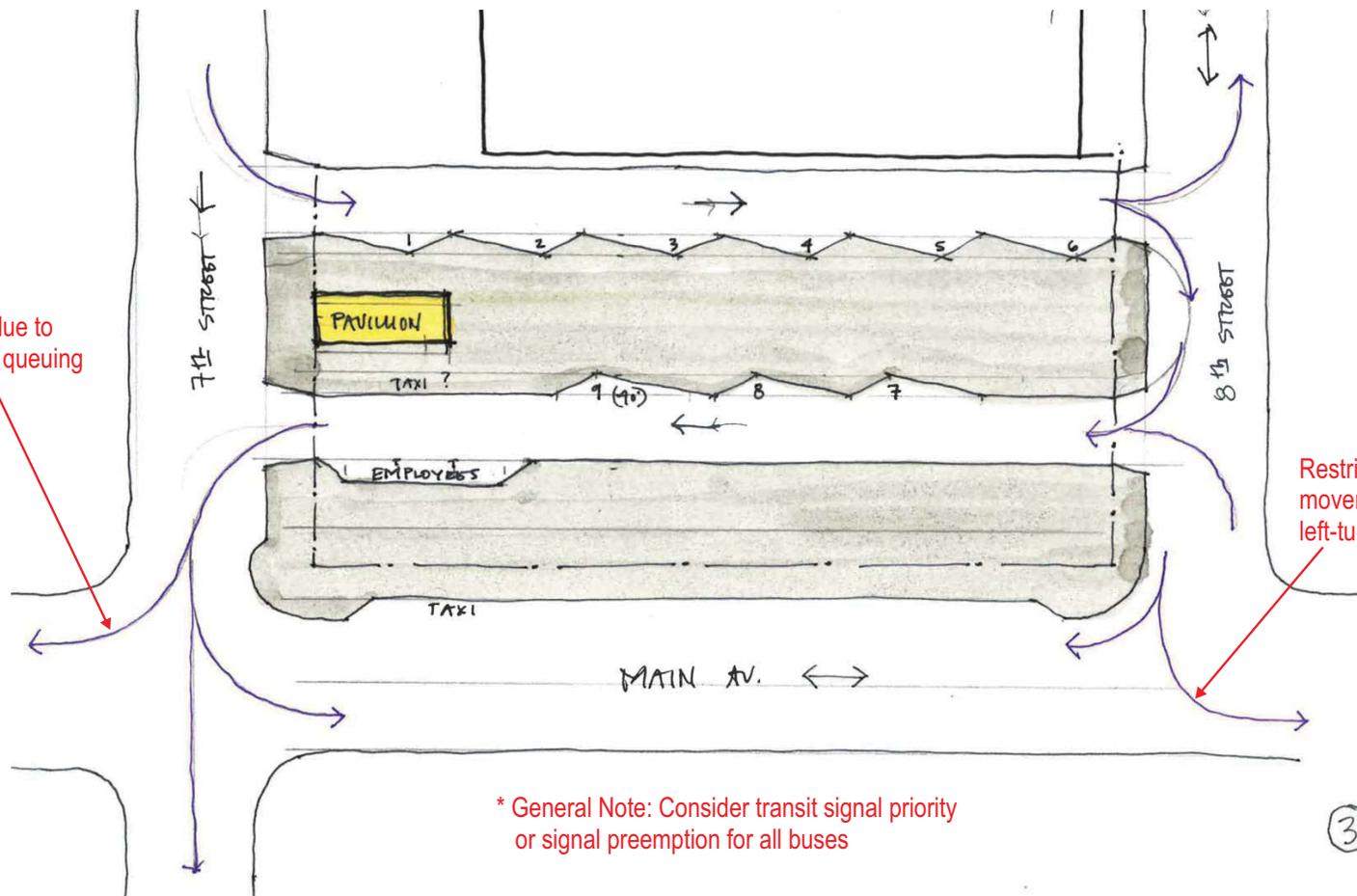
Regardless of the four-lane/three-lane configuration discussion along Main Avenue, there is the potential of a new transit center to be located downtown. Based on discussions with planning staff, the preferred location of the future transit center is Option 3 as identified in the Bismarck Downtown Transit Center: Review Program Concept, Location and Site Alternatives – Draft completed by Nelson\Nygaard Consulting Associates Inc (see Figure 5). Therefore, as part of this addendum, SRF has completed a planning-level review of the preferred transit center location to identify any potential traffic operation/circulation issues. The following conclusions and recommendations are offered for consideration:

- The transit center is located along Main Avenue between 7th Street and 8th Street and assumes that 8th Street would be reopened to the north, allowing access to/from Broadway Avenue.
- Buses will be allowed to enter/exit the transit center along both 7th Street and 8th Street.
- Based on the traffic operations analysis, southbound queues from the Main Avenue/7th Street intersection are expected to frequently queue beyond the transit center access.
 - These queues will make it difficult for buses exiting onto 7th Street, particularly those destined westbound along Main Avenue, which would have to cross multiple lanes of traffic.
 - To mitigate this situation, buses destined west along Main Avenue should be located in stall one through six and be required to access Main Avenue via 8th Street.
- Based on the traffic operations analysis, making a southbound left-turn movement from the Main Avenue/8th Street intersection is expected to be difficult assuming the current sidestreet stop control.
 - To prevent buses from having to make this difficult maneuver, buses destined east along Main Avenue should exit via 7th Street and complete a southbound left-turn movement at the signalized Main Avenue/7th Street intersection.
- To minimize impacts to exiting buses, transit signal priority (TSP) or signal pre-emption could be implemented to dissipate any queuing prior to exiting.



H:\Proj\FRGO\8022\T\S\Figure\Fig05_Prefered Downtown Transit Location (Option 3).cdr

Restrict this movement due to southbound queuing



Restrict this movement due to left-turn difficulty

* General Note: Consider transit signal priority or signal preemption for all buses



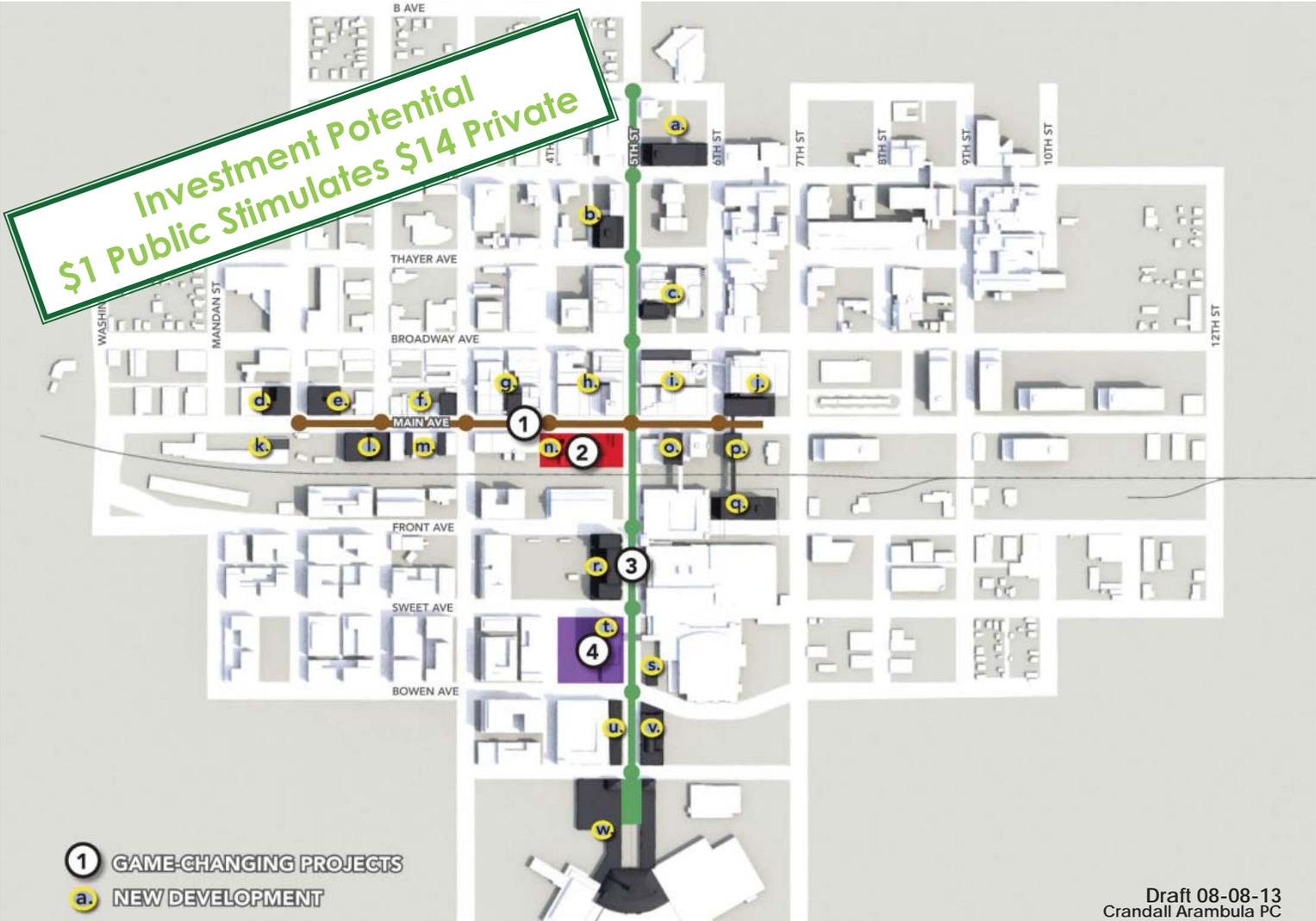
Preferred Downtown Transit Location (Option 3)

Downtown Bismarck Subarea Study
Bismarck, North Dakota

0138022
July 2013

Figure 5

GAME CHANGER INVESTMENT SUMMARY



Game Changers and New Development

Game-Changers

Public Investment Summary

Project	Total
① Main Avenue (500K/Blk)	\$ 3,500,000*
② Depot Plaza (40,000 SF @ \$170/SF)	\$ 8,500,000*
③ 5 th Street Improvements (A to Mall @\$1 M/Blk)	\$ 10,500,000*
④ Civic Center Convention Hotel	\$ TBD

Public Investment: \$ 22.5 MIL

* Estimates are meant to be strictly order of magnitude construction cost estimates plus a 20% Contingency.
Depot Plaza costs include property acquisition of \$.5 MIL

Draft 08-08-13
Crandall Arambula PC

New Development

Potential Private Investment Summary

Use	Units/SF/SP	Total
Housing (Unit)*	430 DU	\$108,450,000
Hotel (Rooms)*	250 DU	\$ 42,500,000
Office (SF)*	363,000 SF	\$ 94,650,000
Retail (SF)*	289,000 SF	\$ 72,300,000

Potential New Private Investment: \$ 317.9 MIL

* Estimates include costs for on-site parking

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New Development

Potential Private Investment Summary

Block	Use	Cost	Units/SF/SP	Investment
a.	Office- 6 Floors	\$200/SF	120,000 SF	\$ 24,000,000
	Parking- 2 levels	\$28,000/SP	250 SP	\$ 7,000,000
b.	Office- 6 Floors	\$200/SF	66,000 SF	\$ 13,200,000
	Parking- 1 level	\$38,000/SP	75 SP	\$ 2,000,000
c.	Office- 5 Floors	\$200-\$250/SF	26,000 SF	\$ 5,600,000
	Retail- Gr Flr	\$250/SF	7,000 SF	\$ 1,800,000
	Parking- 1 Level	\$38,000/SP	96 SP	\$ 3,800,000
d.	Retail - Gr Flr	\$250/SF	6,000 SF	\$ 1,500,000
	Housing- 4 Floors	\$200,000 DU	40 DU	\$ 8,000,000
	Parking- 1 level	\$38,000/SP	44 SP	\$ 1,800,000
e.	Retail - Gr Flr	\$250/SF	8,500 SF	\$ 2,000,000
	Housing- 4 Floors	\$200,000 DU	48 DU	\$ 9,600,000
	Parking- 1 level	\$38,000/SP	51 SP	\$ 2,000,000
f.	Retail - Gr Flr	\$250/SF	16,400 SF	\$ 4,000,000
	Housing- 4 Floors	\$200,000 DU	20 DU	\$ 4,000,000
	Parking- 1 level	\$38,000/SP	20 SP	\$ 750,000
g.	Retail - Gr Flr	\$250/SF	13,500 SF	\$ 3,400,000
	Office- 4 Floors	\$200/SF	5,000 SF	\$ 1,000,000
	Parking- 1 level	\$8,000/SP	15 SP	\$ 125,000
h.	Retail - Gr Flr	\$250/SF	3,000 SF	\$ 750,000
i.	Retail - Gr Flr	\$250/SF	10,000 SF	\$ 2,500,000

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New Development

Potential Private Investment Summary

Block	Use		Cost	Units/SF/SP	Investment
j.	Retail -	Gr Flr	\$250/SF	15,000 SF	\$ 3,750,000
	Office-	4 Floors	\$200/SF	48,000 SF	\$ 9,500,000
	Parking-	1 level	\$38,000/SP	85 SP	\$ 3,250,000
k.	Retail -	Gr Flr	\$250/SF	5,400 SF	\$ 1,350,000
l.	Retail -	Gr Flr	\$250/SF	5,000 SF	\$ 1,375,000
	Housing-	3 Floors	\$200,000 DU	46 DU	\$ 9,200,000
	Parking-	1 level	\$28,000/SP	50 SP	\$ 1,400,000
m.	Retail -	Gr Flr	\$250/SF	4,600 SF	\$ 1,050,000
	Housing-	3 Floors	\$200,000/DU	18 DU	\$ 3,600,000
	Parking-	1 level	\$28,000/SP	20 SP	\$ 500,000
n.	Retail -	Gr Flr	\$250/SF	7,800 SF	\$ 2,075,000
o.	Retail -	Gr Flr	\$250/SF	12,000 SF	\$ 3,000,000
	Housing-	4 Floors	\$200,000/DU	28 DU	\$ 5,600,000
	Parking-	2 levels	\$28,000/SP	250 SP	\$ 7,000,000
p.	Retail -	Gr Flr	\$250/SF	10,000 SF	\$ 2,500,000
	Office-	3 Floors	\$200/SF	18,000 SF	\$ 3,500,000
	Parking-	1 level	\$8,000/SP	40 SP	\$ 375,000
q.	Retail -	Gr Flr	\$250/SF	4,800 SF	\$ 1,250,000
	Office-	3 Floors	\$200/SF	80,000 SF	\$ 16,000,000
	Parking-	1 level	\$38,000/SP	140 SP	\$ 5,300,000

Draft 08-08-13
Crandall Arambula PC

New Development

Potential Private Investment Summary

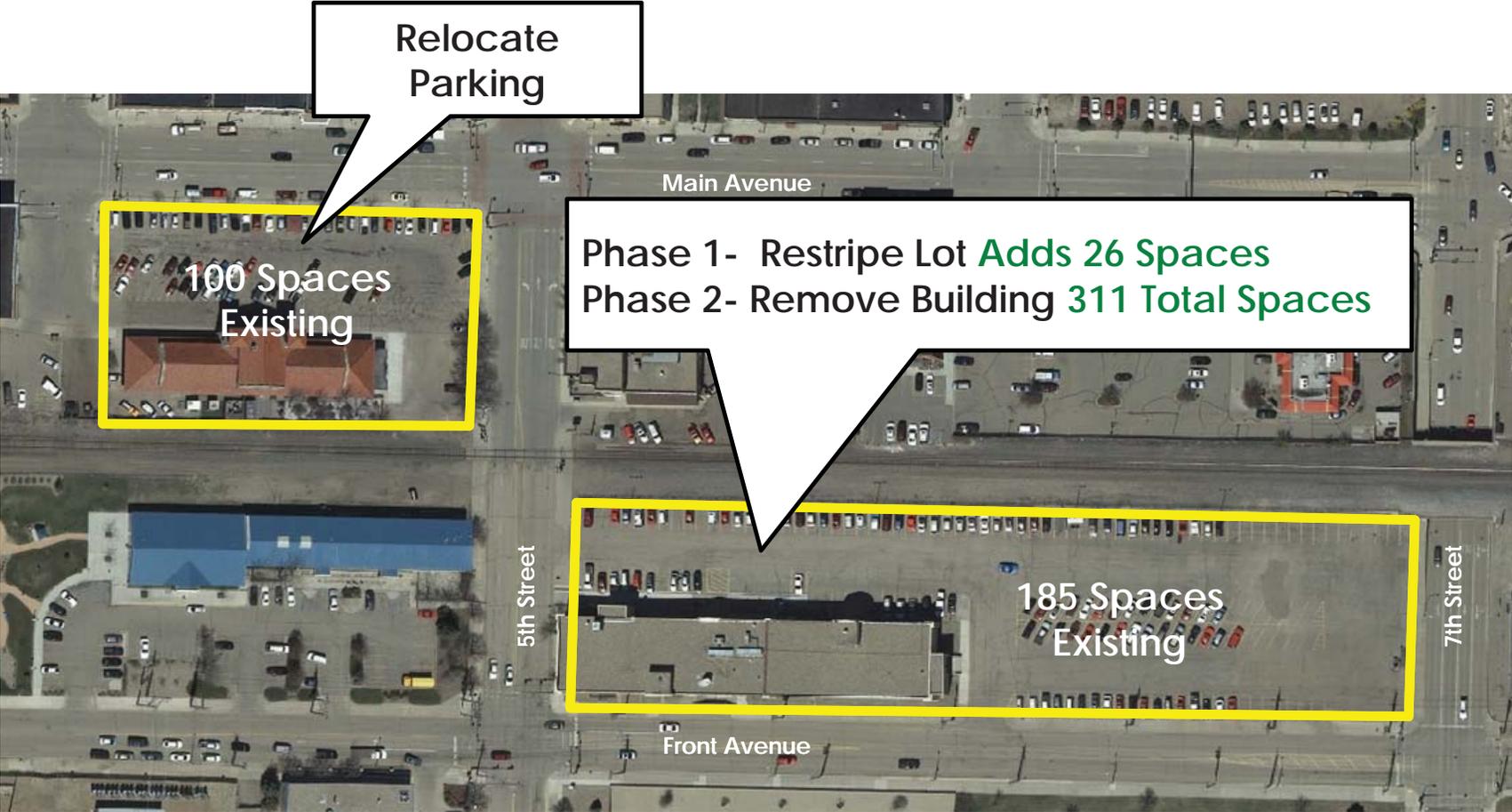
Block	Use		Cost	Units/SF/SP	Investment
r.	Retail -	Gr Flr	\$250/SF	15,000 SF	\$ 3,750,000
	Housing-	8 Floors	\$200,000 DU	130 DU	\$ 26,000,000
	Parking-	1 level	\$28,000/SP	155 SP	\$ 4,500,000
s.	Retail -	Gr Flr	\$250/SF	4,000 SF	\$ 1,000,000
t.	Retail -	Gr Flr	\$250/SF	14,000 SF	\$ 3,500,000
	Hotel-	10 Flrs	\$146,000 RM	250 RM	\$ 41,500,000*
	Parking-	1 level	\$8,000/SP	100 SP	\$ 1,000,000
u.	Retail -	Gr Flr	\$250/SF	15,000 SF	\$ 3,750,000
	Housing-	7 Flrs	\$200,000 DU	65 DU	\$ 13,000,000
	Parking-	1 level	\$8,000/SP	100 SP	\$ 1,000,000
v.	Retail -	Gr Flr	\$250/SF	12,000 SF	\$ 3,000,000
	Housing-	2 Flrs	\$200,000 DU	35 DU	\$ 7,000,000
	Parking-	1 level	\$38,000/SP	85 SP	\$ 3,500,000
w.	Retail -	Gr Flr	\$250/SF	100,000 SF	\$ 25,000,000
TOTAL:					\$317,900,000

* Includes land acquisition cost of \$ 5 MIL

Draft 08-08-13
Crandall Arambula PC

DEPOT PLAZA REPLACEMENT PARKING

Construction of the Depot Plaza will eliminate the existing 100 off-street parking spaces. A strategy for replacing this needed parking in the downtown is to relocate the parking to the city-owned Front Avenue parking lot located between Fifth Street and Seventh Street. Through restriping of the existing lot and future demolition and relocation of the Bismarck/Burleigh Public Health Building a total of 311 public parking spaces could be created.





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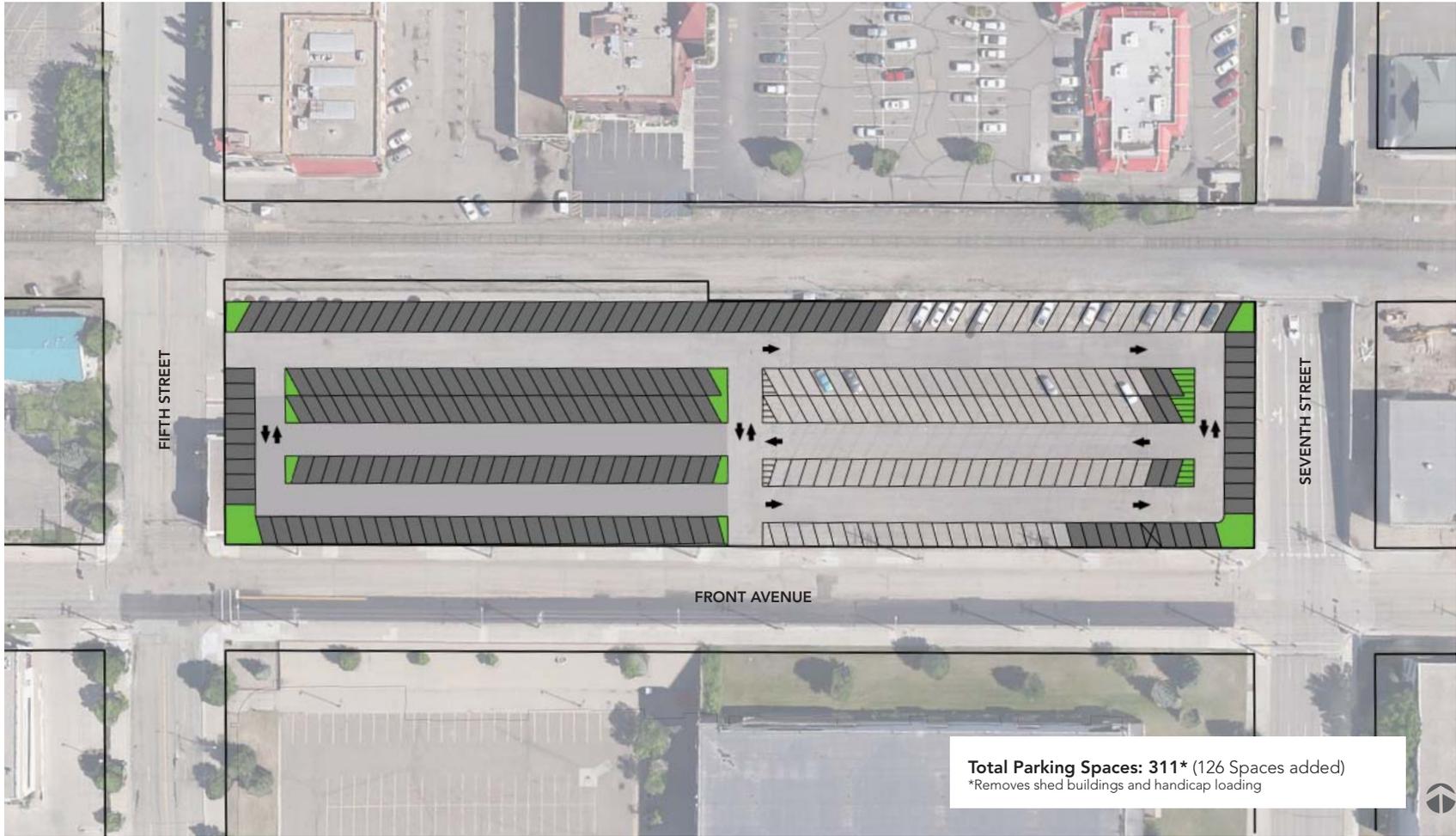
Bismarck SubArea Study— Front Avenue Parking Lot Site
Existing Conditions



Bismarck SubArea Study— Front Avenue Parking Lot Site
Phase I (Re-Stripe)

Draft 09-09-13
 Crandall Arambula PC





Draft 09-09-13
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Bismarck SubArea Study— Front Avenue Parking Lot Site
Phase II (Building Demolition)

0' 60' 120'