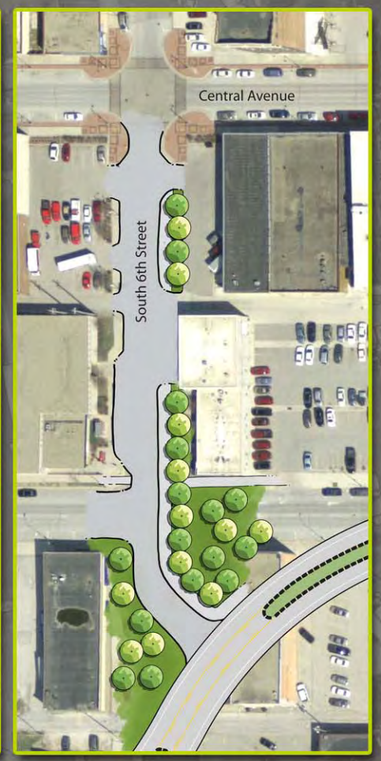
November 22, 2010



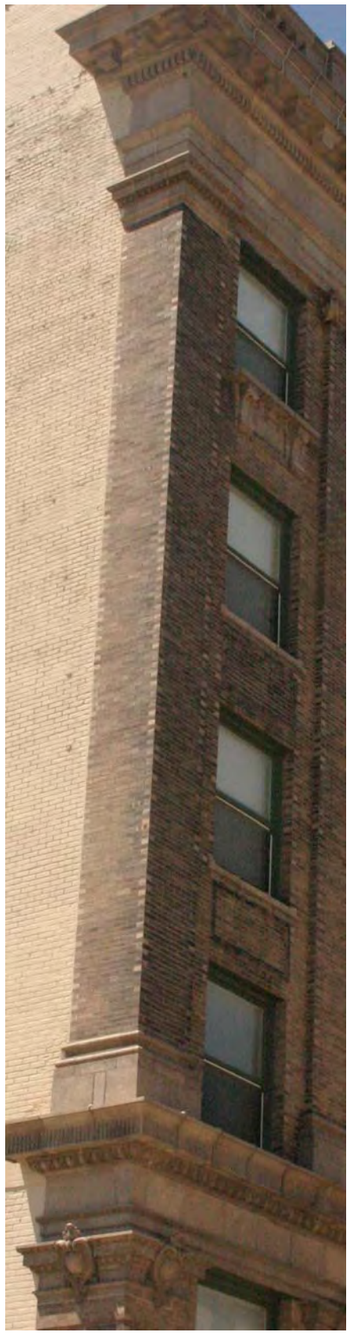
CITY OF FORT DODGE

SNYDER & ASSOCIATES
Engineers and Planners

CITY OF FORT DODGE

Impact Study and Implementation Plan

CROSS-TOWN CONNECTOR IMPROVEMENTS PROJECT



Introduction

In order to fully appreciate the efforts put forth into this impacts and implementation plan, one must first reflect on prior efforts made by community leaders and staff to lay a vision for this community in the future. Fort Dodge's initial action was the ENVISION 2030 plan, developed and adopted by the City in 2007. ENVISION 2030 makes reference to the community's desire to "provide bold leadership by envisioning a desired future for the city and extended community… City leaders are committed to the development of a strategic vision and plan for direction and implementation… In order to position the city to move quickly toward community and economic development and vitality, city leadership has commissioned studies in several areas."

ENVISION 2030 lays the groundwork for the City of Fort Dodge to become a better competitor in the local, state, national, and global markets. The 2030 plan focuses on five primary areas of Education, Entertainment, Entrepreneurial, Environment, and Energy to position the community for the future. It speaks to infrastructure that supports well-managed growth, a vibrant Downtown center, creating an attractive community appearance, and numerous other factors that play into the equation of positioning Fort Dodge for the year 2030.

A direct result of ENVISION 2030 is the Downtown Plan, adopted in 2008. The Downtown Plan was developed by a group of elected officials, staff, and community leaders that focused on recreating a vital Downtown core. A critical recommendation of this Plan was to realign 2nd Avenue South into 1st Avenue South. This move would position traffic closer to core Downtown, shrink the Downtown area, remove vacant and obsolete buildings, create redevelopment opportunities, provide continuity from the west side of Fort Dodge to the east retail sector, and provide a safe corridor accommodating multiple modes of transportation. This Cross-town Connector Impact Study investigates the issues, needs and opportunities to implement the Downtown Plan's recommendation.

We are pleased to submit this impact and implementation report to the City of Fort Dodge leaders as we understand their mission is to continue positioning the city to accomplish its Downtown and transportation goals from ENVISION 2030.

Acknowledgements

A sincere thank you for the efforts of many Fort Dodge elected officials, the Iowa Department of Transportation, city staff, and business owners that have resulted in the development of this impacts and implementation plan. It is evident by the dedication of the people listed within this document and the many citizens that participated in the numerous public meetings that this project is of utmost importance to the City of Fort Dodge. With a goal to provide a continuous corridor from one side of Fort Dodge to the other, there is also recognition of the importance to re-establish and maintain a vibrant Downtown business district, which can be enhanced through the efforts put forth by the roadway realignment.

The following is a listing of the City's elected officials, staff, and Steering Committee Members that played a vital role during the development process of this study.

City of Fort Dodge Mayor

The Honorable Matt Bemrich

Fort Dodge City Council

David Flattery, At Large, Mayor Pro Tem
Barney Patterson, At Large
Andy Fritz, At Large
Curt Olson, Ward 1
Don Wilson, Ward 2
Margy Halverson-Collins, Ward 3
Kelly Hindman, Ward 4

City Staff

David Fierke, City Manager
Chad Schaeffer, City Engineer
Scott Meinders, Engineer
Dennis Plautz, Director of the Department of Business Affairs and Community Growth
Stephanie Houk Sheetz, Senior Planner

Steering Committee Members

Matt Bemrich, Mayor
Barney Patterson, City Council
Amy Bruno, Chamber of Commerce
Ross Nemitz, Development Corporation of Greater Fort Dodge
Mike Doyle, SSMID
Rich Seltz, SSMID
Jim Bird, SSMID
Jamie Killian, Development Corporation of Fort Dodge and Webster County
David Fierke, City of Fort Dodge
Chad Schaeffer, City of Fort Dodge
Scott Meinders, City of Fort Dodge
Stephanie Houk Sheetz, City of Fort Dodge
Dennis Plautz, City of Fort Dodge
Tony Gustafson, Iowa DOT District 1
Wade Greiman, Snyder & Associates
Rich Voelker, Snyder & Associates
Mark Perington, Snyder & Associates
Don Marner, Snyder & Associates
Kathleen Connor, Snyder & Associates
Jamie Tunnell-Bents, Snyder & Associates

Background Information

Fort Dodge Employment / Population Trends

The City of Fort Dodge, Iowa is located in North-Central Iowa and is blessed with a nice mix of rail, aviation, and highway infrastructure to serve the community. For most of the 20th century, meatpacking was a major industry in Fort Dodge, but the last two large meatpacking plants, owned by IBP and Hormel, closed during the 1980s. The current major industries of Fort Dodge are gypsum and limestone mining, drywall manufacturing, veterinary pharmaceuticals and vaccines manufacturing, pet and animal foods, can production, trucking, and retail. Other large employers within Fort Dodge are Iowa Central Community College, the Trinity Regional Medical Center, and the Fort Dodge Correctional Facility. Prior to 1970, Fort Dodge experienced a large amount of growth. Below is a table illustrating the population trends for the City of Fort Dodge since 1860.

Historical populations		
Census	**Pop.**	**%±**
1860	672	—
1870	3,095	360.6%
1880	3,586	15.9%
1890	4,871	35.8%
1900	12,162	149.7%
1910	15,543	27.8%
1920	19,347	24.5%
1930	21,895	13.2%
1940	22,904	4.6%
1950	25,115	9.7%
1960	28,399	13.1%
1970	31,263	10.1%
1980	29,423	−5.9%
1990	25,894	−12.0%
2000	26,309	1.6%

US Census, 1860 - 2000

Retail Sector/Downtown Businesses/Occupancy Trends

Fort Dodge's business districts are located in two separate areas of the city; the Downtown area and the East Retail Area. The Downtown area is located in the west central part of Fort Dodge between S. 3rd Street and S. 12th Street. The Downtown area is primarily comprised of service oriented businesses, a few restaurants/bars, and public services facilities such as City Hall, the Webster County Courthouse, the public library, and DART facilities. The East Retail Area is situated along the 5th Avenue S. and 1st Avenue S. corridors and serves as a regional retail destination for a large portion of North-Central Iowa. A majority of the East Retail Area lies between S. 25th Street and S. 32nd Street and consists of the Crossroads Mall, large box retail centers, numerous restaurants, convenience stores and specialty shops. (See Figure 1)

As indicated by the U.S. Census information, the City of Fort Dodge has dropped in population over the past 30+ years. As a result, the Downtown area has experienced a change in functionality and density. For the most part, the businesses that are open and thriving have taken steps to sustain themselves, but for the buildings that have vacancies it has been a struggle. At one time the Downtown area was a very lively place to visit. With residential units existing in some of the upper floors of the multi-story buildings, the population base in Downtown helped sustain the many businesses along the bottom floors. Over time, the residential areas spread out into other areas of Fort Dodge and the residents moved out of the Downtown area, thus vacating those areas. Today, there are numerous buildings vacant in some manner, especially in the upper floors.

In a similar manner to the residential shift from Downtown to other areas of Fort Dodge, the retail sector has also shifted to the East Retail Area. With the construction of the mall and large box retail centers, much of the city's shopping sector is now located outside of the Downtown area.

Project Purpose and Need

Proposed Action

The proposed action includes road improvements for a continuous arterial street through Downtown Fort Dodge to the Crossroads Mall. The project may realign Business U.S. 169/Iowa Highway 926 between the Des Moines River and 8th Street.

Purpose of the Proposed Action

The purpose of the proposed action is to safely and efficiently accommodate existing and projected traffic between the Karl King Bridge over the Des Moines River and S. 32nd Street in Fort Dodge.

Need for the Proposed Action

The need for the proposed action is connected to improving transportation access to and within Downtown and the East Retail Area, supporting the City's goals of making Fort Dodge's Downtown district more compact, improving connectivity between the Downtown district and the East Retail Area, and increasing the amount of traffic flow along 1st Avenue South near the Downtown retail sector.

- *Create Efficient and Continuous Complete Street Corridor from Downtown to the East Retail Area*

The roadway network in the study area is shown in Figure 1. The regional transportation corridor of Business U.S. 169/Iowa Highway 926 extends through Downtown Fort Dodge along 2nd Avenue South east of Karl King Bridge and turns southward at S. 8th Street. The principal east-west road into the Crossroads Mall area is 1st Avenue South. The sole rail crossing viaduct is located on 1st Avenue South immediately west of the East Retail Center. 1st Avenue South extends west from the viaduct, back to Downtown, but is one-way westbound and does not cross the Des Moines River.

Figure 1 - Lack of East-West Corridor Continuity between Downtown and East Retail Area

Map Source: Iowa Department of Transportation

As Figure 1 shows, there is not a continuous east-west corridor between Downtown and the East Retail Area. The City is committed to the development of a continuous and efficient transportation corridor, complete with bicycle and pedestrian accommodations, to promote good traffic flow and improve way finding to Downtown, as well as between Downtown and the East Retail Area.

- *Improve Local Access to and within Downtown Core*

One of the seven key plan strategies identified in the Fort Dodge Downtown Plan is "Enhance accessibility to and throughout the Downtown." This key strategy included a recommendation to realign Iowa Highway 926 (Business U.S. 169) to 1st Avenue South, and convert 1st Avenue South and 1st Avenue North to two-way streets through Downtown. Iowa Highway 926 is the principal regional access to the Downtown area. However, the highway remains two blocks south of the core Downtown area along Central Avenue. The Downtown Plan states that the realignment of Iowa Highway 926 closer to the Central Avenue corridor would bring traffic closer to the Downtown core, which is of critical importance to sustaining a viable retail sector in the Downtown area.

- *Support City Goal of Compact Downtown District*

The Downtown Plan's recommendation to realign Iowa Highway 926/Business U.S. 169 closer to the Central Avenue corridor would also support the City's goal of reducing the size of the Downtown district, which results in the concentration of traffic flow, making the core Downtown area more viable. The City's goal is based upon a trend analysis of three Fort Dodge factors: population, retail trade, and Downtown building occupancy.

Population

The population for Fort Dodge and Webster County peaked in 1970 with a combined population of 48,400 (31,263 Fort Dodge population)[1]. By 2000, the county and city's combined population decreased to 41.400 (26,309 Fort Dodge population). The City of Fort Dodge's population decreased nearly 20% between 1970 and 2000, while Webster County's population decreased nearly 17%.

Retail Trade

Fort Dodge historically and currently has had high retail pull factors, a retail trade figure indicating how well a jurisdiction is serving retail trade demand for its population and surrounding populations. Fort Dodge is the largest city in the immediate region, and has captured the majority of regional retail trade. Fort Dodge's Downtown expanded over time to serve the market demand and anticipated future growth. Although the populations of Fort Dodge and Webster County have decreased significantly since 1970, Fort Dodge's retail pull factor has increased; in 1978, the city's pull factor was 1.54, increasing to 1.79 by 2008. Webster County's pull factor has remained stable, at 1.25. A pull factor greater than 1.0 indicates that a jurisdiction has captured its own retail demand and is attracting retail sales from areas outside its jurisdiction.

Downtown Building Occupancy

The Downtown Plan states that Downtown building occupancy rates are low as compared to other Downtowns that are also seeking revitalization and increased investment. In 2008, 8.5% of buildings were completely unoccupied, with only 88% of buildings 75 – 100% occupied. Since the construction of the Crossroads Mall, a large portion of the prior retail trade demand has shifted to the East Retail Area, leaving an excess of available leasable space in Downtown Fort Dodge. Due to the population decrease and the retail trade shift to the East Retail Area, the Downtown area is now much larger than retail demand warrants.

In consideration of these three factors, the City has determined that Downtown Fort Dodge should be made more compact to decrease abandoned and functionally obsolete uses and improve functionality through more compatible land uses of the Downtown district. Relocating Iowa Highway 926/Business U.S. 169 to the north would effectively reduce the physical size of the Downtown and bring more traffic closer accomplishing a substantial portion of this goal.

Project Development Process

On March 22, 2010 the Fort Dodge City Council committed itself to studying the impacts associated with realigning a portion of 2nd Avenue S. to 1st Avenue S. within the Downtown area. The result of this commitment is this document. The project started out

[1] U.S. Census, 1970 - 2000

with a kick-off meeting on March 26th and the development of a Steering Committee. This committee was comprised of elected officials, members of the Downtown Self-Supported Municipal Improvement District (SSMID), the Iowa Department of Transportation (DOT), City Staff, the Fort Dodge Chamber of Commerce, the Development Corporation of Greater Fort Dodge, the Development Corporation of Fort Dodge and Webster County, and the consultant.

Scope of the Study

The scope of the project was to determine the impacts associated with realigning a portion of 2nd Avenue S. to 1st Avenue S. The impacts to two primary focus areas, the Downtown area and the East Retail Area were to be determined as a result of the roadway realignment. The following describes in more detail the scope behind the impact study of these two areas.

- *Downtown Area*

The City has a desire to reestablish 1st Avenue N. and 1st Avenue S. as two-way corridors to help with traffic flow in and around the Downtown area. The study scope requires a traffic analysis of the conversions to two-way streets as well as having the 1st Avenue S. corridor connect to 2nd Avenue S. thus creating a continuous corridor from the west side of the city to the east side. The traffic analysis was to include an operational analysis to determine the level of service (LOS) of the corridors and primary intersections.

A second component to the Downtown area traffic study was to review crash history of the area to determine if problems exist that need to be remedied. Upon review of the Downtown crash history, key issues were to be addressed in the report that speak to possible improvements to access locations and spacing, intersection geometry, signalization improvements, and parking locations. More specifically, the Downtown traffic signal system was to be analyzed for potential improvements in the overall progression of flow.

Two street intersections were also identified in the scope to be part of this report. Those intersections are at 1st Avenue S. and S. 12th Street as well as 1st Avenue S. and S. 15th Street. Functional geometric recommendations were to be made at those two intersections as a result of the realignment of 2nd Avenue S. to the 1st Avenue S. corridor.

In addition to functional geometry and roadway concepts, the scope identified the need to determine potential streetscape improvements and gateway features as you enter the Downtown area. The primary focus on streetscape amenities should take into consideration some of the amenities along the Central Avenue corridor and the newly completed improvements at 5th Avenue S. and S. 8th Street. The thought behind this work is to help the public understand that they are entering the Downtown with a "sense of place".

In conjunction with the work on the roadway realignment and other Downtown street improvements, the City had identified potential redevelopment areas to be of critical importance to the overall project. For each of the roadway realignment alternatives, potential redevelopment opportunities were to be identified. The effort was to "right size" the Downtown business district and provide complimentary land uses in areas surrounding the realignment that help to support and sustain a smaller Downtown business district. With the assistance of the Downtown Development Guidelines adopted by the city, redevelopment concepts were to be developed for the preferred realignment alternative.

- *East Retail Area*

The realignment of 2nd Avenue S. to 1st Avenue S. provides for a continuous corridor across Fort Dodge and connects the Downtown business district with the East Retail Area. Currently, the 1st Avenue S. roadway experiences capacity and operational issues east of Veteran's bridge. The scope of this report included an identification of impacts associated with the realignment in the Downtown area to the East Retail Area roadways. The report was to address the 1st Avenue S. corridor and two primary intersections adjacent to the retail centers; S. 25th Street and S. 29th Street.

The existing 1st Avenue S. roadway is a three-lane urban cross section. The intersections with S. 25th Street and S. 29th Street experience delays during specific times of the day and crashes are also a concern. Additionally, access locations are tightly spaced along portions of 1st Avenue S. and are not consistent in their spacing.

The traffic analysis for this area was to identify potential improvements to this corridor upon completion of the Downtown area roadway realignment. Capacity improvements were to be outlined with functional geometry recommendations at the two primary intersections mentioned above as well as a potential access management plan. Recommendations on sight distance improvements and traffic control/signage was also part of the scope.

- *Phasing*

While funding is a very important element to understand, phasing of the improvements must be developed in concert with the funds that are available. It is critically important to identify items that are directly related to each other and to package them such that they match the funding streams available. Additionally, those elements of the project that can occur independently can be kept separate from the project until such time funds are available to complete those portions of the project.

- *Funding*

Finally, funding recommendations were outlined in the scope to assist the city on developing a financial plan for the improvements they are about to make. Without a sound plan for outside funding, the project improvements may fall short of achieving the ultimate goals set forth.

Data Collection / Existing Conditions

Traffic Related

- *Volumes / Counts*

Obtaining existing traffic information for the project area is essential for the development of traffic modeling and developing recommendations for road geometric improvements. The consultant team collected both manual turning movement and automated daily counts at various locations as a basis for this review. These counts were collected during AM, Off (noon), and PM peak hours of travel. Two-hour periods were counted weekdays during each of these peak hours (AM peak was collected from 7:00 to 9:00 AM, Off peak from 11:30 AM to 1:30 PM, PM peak from 4:00 to 6:00 PM). Daily counts (with road tube counters) were collected to establish daily and directional traffic patterns for both weekday and weekend at select locations. Table 1 lists the locations identified for intersection turn movement counts and daily counts.

Table 1: Traffic Count Locations

Count Location	Count Type
1st Ave S & S 15th St	Intersection Turn Move
1st Ave S & S 25th St	Intersection Turn Move
1st Ave S & S 29th St	Intersection Turn Move
1st Ave S & S 12th St	Intersection Turn Move
Central Ave & S 12th St	Intersection Turn Move
1st Ave N & N 12th St	Intersection Turn Move
1st Ave S & S 7th St	Intersection Turn Move
1st Ave S & S 8th St	Intersection Turn Move
1st Ave S & S 9th St	Intersection Turn Move
1st Ave N & N 7th St	Intersection Turn Move
1st Ave N & N 9th St	Intersection Turn Move
2nd Ave S & S 12th St	Intersection Turn Move
1st Ave S – west of S 20th St	Daily
1st Ave S – west of S 27th St	Daily
1st Ave S – east of S 31st St	Daily
2nd Ave S – west of S 5th St	Daily
1st Ave N – west of N 9th St	Daily
N 9th St – north of 1st Ave N	Daily
S 8th St – south of 2nd Ave S	Daily

These counts were supplemented with both manual turning movement counts and automated daily counts taken by the Iowa DOT in 2007 to represent estimated daily traffic volumes. Additional information on the traffic counts is shown in Appendix A of this report.

- *Crashes*

As part of the Cross-town Connector Improvements plan to east 1st Avenue S. between S. 15th Street and S. 32nd Street, safety analysis on both project areas were conducted to understand current safety deficiencies to be addressed. Crash data provided by the Iowa DOT for the 5-year study period 2004–2008 were used in this analysis.

Throughout this analysis, calculated crash rates are compared to average intersection and corridor crash rates established by Iowa DOT analysis of statewide crash data for similar roads. Additional information on the crash data gathered is available at the City.

- *Parking*

The City of Fort Dodge performed a survey on the existing parking infrastructure along the 1st Avenue S. and Central Avenue corridors between 3rd Street and 12th Street. Additionally, they reviewed the parking available east of S. 12th Street along 1st Avenue S. Use of on-street parking was quantified over numerous times of the day during the week and a table of those findings is shown below.

This information is important when evaluating the impacts associated with the development of the Cross-town Connector and side-street improvements.

Street Conditions

When determining whether a street requires replacement, widening, an overlay, or just simply redoing the pavement stripes to accommodate the traffic projected it is important to understand the condition of the existing pavement. The City monitors the pavement condition annually and programs improvements for those streets that match their available funding level. The city uses a PCI (pavement condition index), which is based on a rating that falls between 0, failed pavement, and 100, which is perfect pavement. The current street PCI ratings for the nine blocks of 1st Avenue N. and 1st Avenue S. between 3rd Street and 12th Street as well as the five blocks of 2nd Avenue S. between S. 3rd Street and S. 8th Street are as follows:

Block	Total Stalls	Average # Occupied Stalls	Average Capacity Used (%)	# of Occupied Stalls													
				5/25/2010 15:00	5/26/2010 8:00	5/26/2010 13:00	5/26/2010 16:30	6/1/2010 8:00	6/1/2010 13:00	6/7/2010 8:00	6/7/2010 16:00	6/27/2010 8:00	6/27/2010 13:00	6/27/2010 16:00	6/28/2010 8:00	6/28/2010 13:00	6/28/2010 16:30
400 1st Ave N	12	5	39%	7	6	6	3	3	3	3	6	6	8	5	2	5	3
500 1st Ave N	10	3	29%	2	2	4	3	1	5	2	2	3	5	4	2	4	2
600 1st Ave N	16	3	19%	4	1	4	2	2	4	1	1	2	4	4	3	6	4
700 1st Ave N	13	2	13%	3	0	1	3	1	4	2	0	0	3	1	0	3	3
800 1st Ave N	17	6	35%	1	3	5	11	4	9	2	4	4	9	10	4	6	11
900 1st Ave N	17	6	34%	4	3	5	4	4	6	4	10	3	9	10	5	7	8
1000 1st Ave N	15	3	22%	1	1	4	5	2	5	3	5	0	5	3	2	5	6
1100 1st Ave N	8	1	17%	1	3	1	1	0	2	0	2	0	3	1	0	3	2
1900 1st Ave S	17	1	5%	1	1	1	2	1	0	0	1	1	0	0	0	1	2
1800 1st Ave S	14	0	2%	0	0	0	0	0	2	0	0	0	0	0	0	0	2
1700 1st Ave S	15	3	21%	1	0	0	4	6	5	1	2	0	3	5	6	5	6
1600 1st Ave S	11	1	5%	0	1	0	0	1	2	0	0	1	0	0	0	0	2
1500 1st Ave S	2	0	7%	0	0	1	0	0	0	0	0	0	0	0	0	1	0
1400 1st Ave S	10	4	39%	3	4	4	2	3	4	2	1	4	5	6	4	5	8
1300 1st Ave S	15	4	27%	4	3	4	3	4	5	2	3	4	5	5	4	5	6
1200 1st Ave S	12	10	84%	11	12	9	6	12	12	8	8	10	12	8	12	12	9
1100 1st Ave S	0	0	N/A	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1000 1st Ave S	21	2	8%	1	0	3	1	2	4	7	0	0	2	0	0	3	0
900 1st Ave S	18	0	0%	0	0	0	0	0	0	0	0	0	0	0	0	0	0
800 1st Ave S	17	11	66%	13	5	11	14	7	9	14	15	11	14	13	5	11	14
700 1st Ave S	14	6	43%	9	5	7	2	6	6	5	7	7	8	5	6	8	4
600 1st Ave S	14	5	38%	9	5	7	5	6	0	5	4	6	6	4	5	7	6
500 1st Ave S	12	5	41%	5	4	4	5	5	0	7	3	4	7	6	7	8	4
400 1st Ave S	18	5	30%	7	5	6	9	4	0	5	8	4	6	6	4	5	7

Table 2: Parking Survey Information

- 1st Avenue N. – PCI varies from 29 to 40
- 1st Avenue S. – PCI varies from 25 to 52
- 2nd Avenue S. – PCI is consistently 65

A majority of the 1st Avenue N. and 1st Avenue S. corridors are deteriorated or have failed and are currently in need of replacement. 2nd Avenue S. is still functioning ok and is considered in fair condition, but the rating has continued to drop from an 80 in 2001 to a 65 in 2009. The 2nd Avenue S. pavement will likely require minor to major rehabilitation efforts in the near future as the pavement conditions continue to worsen due to age of the pavement and the loading placed on the pavement by the truck traffic.

Utilities

Anytime construction is eminent in an urban area, utilities will be an important element to understand and address prior to work commencing. It's important to identify existing infrastructure during the planning phase of the project development so as to properly identify utility corridors that make sense for the roadway alignments as well as the developments that surround them. Below is a list of utility owners that were contacted as part of this project.

Table 3: Utility Owners

MCI/Verizon	Fiber Optic / Cable
Mediacom	Fiber Optic / Cable
PAETEC Communications	Fiber Optic / Cable
Frontier Communications	Fiber Optic / Cable
MidAmerican Energy	Gas / Electric
City of Fort Dodge	Water / Sewer / Storm

Base mapping for each utility owner, as provided, was reviewed and analyzed with the development of each concept. The mapping for each utility, as provided, can be attained from the City.

Underground Vaults

As in many older Downtown areas across Iowa, underground vaults can be expected in this area of Fort Dodge. There exists vaults along 1st Avenue S. in front of the Warden/Wahkonsa building and will need to be addressed when reconstructing the street and incorporating the proposed improvements outlined in latter sections of this report.

Property Ownership / Businesses

An important factor to consider when preparing concepts and understanding impacts is the property ownership along the corridor. The persons owning the properties within the project area Downtown have been gathered along with their business names, if applicable. In addition, information on parcels owned by the City of Fort Dodge was gathered. The purpose of understanding those locations is to help concentrate the realignment and redevelopment areas to those previously acquired, thus minimizing impacts associated with displacing businesses.

Information relating to the properties involved in the relocation of Fareway was also gathered. The southeast corner of S. 12th Street and 1st Avenue S. is identified as the area for the new Fareway site and it was committed to sale on February 16, 2010. It is important to understand the dynamics associated with business owner's plans for expansion or relocation when analyzing potential realignment and redevelopment concepts.

Past City Projects / Reports

The City of Fort Dodge has gone through a process of defining the needs for preserving and enhancing the vitality of the Downtown district. They have prepared a Downtown Plan (Sept, 2008), a Downtown Design Guidelines (Feb, 2010), and a Community Recreation Needs Assessment and Recreational Master Plan (October, 2008). As a result of those planning efforts, the vision (purpose and need) for this project is relatively clear. With the understanding of the above reports it is also important to develop recommendations that are aligned with the Capital Improvements Program (CIP) for the City of Fort Dodge, as well as the Historic District nomination the City of Fort Dodge submitted for the Downtown area. If the project needs are greater than those resources outlined in the CIP, outside sources should be pursued or the project will need to be phased over a period of time that accommodates those constraints.

In addition, it was important to review past projects such as the Central Avenue streetscape plans as well as the 5th Avenue S. plans to gather insight on specific design elements that will be essential to developing concepts for this project.

Streetscape Inventory

Field visits and construction document reviews were completed to gather specific design characteristics from the Central Avenue Streetscape project as well as the Streetscape amenities at the intersection of 5th Avenue S. and S. 8th Street. Those attributes are to be implemented into the concepts for this project so as to help create a "sense of place" for the Downtown district. Hardscape elements such as brick pavers, benches, trash receptacles, fencing, and decorative lighting were reviewed along with plantings and other softscape amenities for each project. The review resulted in the concepts for the major corridors and specified areas outlined in the redevelopment areas.

Corridor Photography / Pictometry

Hundreds of photographs were taken during different times of the day on different days of the week for both the Downtown district as well as the East Retail Area. Traffic patterns were monitored, streetscape amenities were photographed, and utility infrastructure was documented. The City of Fort Dodge also gathered updated pictometric photos that show a "birds eye view" of the Downtown area.

Traffic Analysis

Projections and Diversions

As part of the Cross-town Connector Improvements Project, traffic projections are needed to analyze operations of existing conditions to the proposed realignment. This memo details the historical growth trends of traffic within the study area and traffic diversion process.

- *Historical Traffic Trends*

Snyder and Associates, with assistance from the Iowa Department of Transportation (DOT), assembled Average Annual Daily Traffic (AADT) volumes from 1987, 1991, 1995, 1999, 2003, and 2007 (counts collected by Iowa DOT) and utilized counts taken in 2010 as discussed in the *Existing Peak Hour and Daily Traffic Volumes* memo (dated May 7, 2010). These count years have some counts in similar locations allowing for an estimated growth rate to be calculated. The following are general comments in regards to these count years:

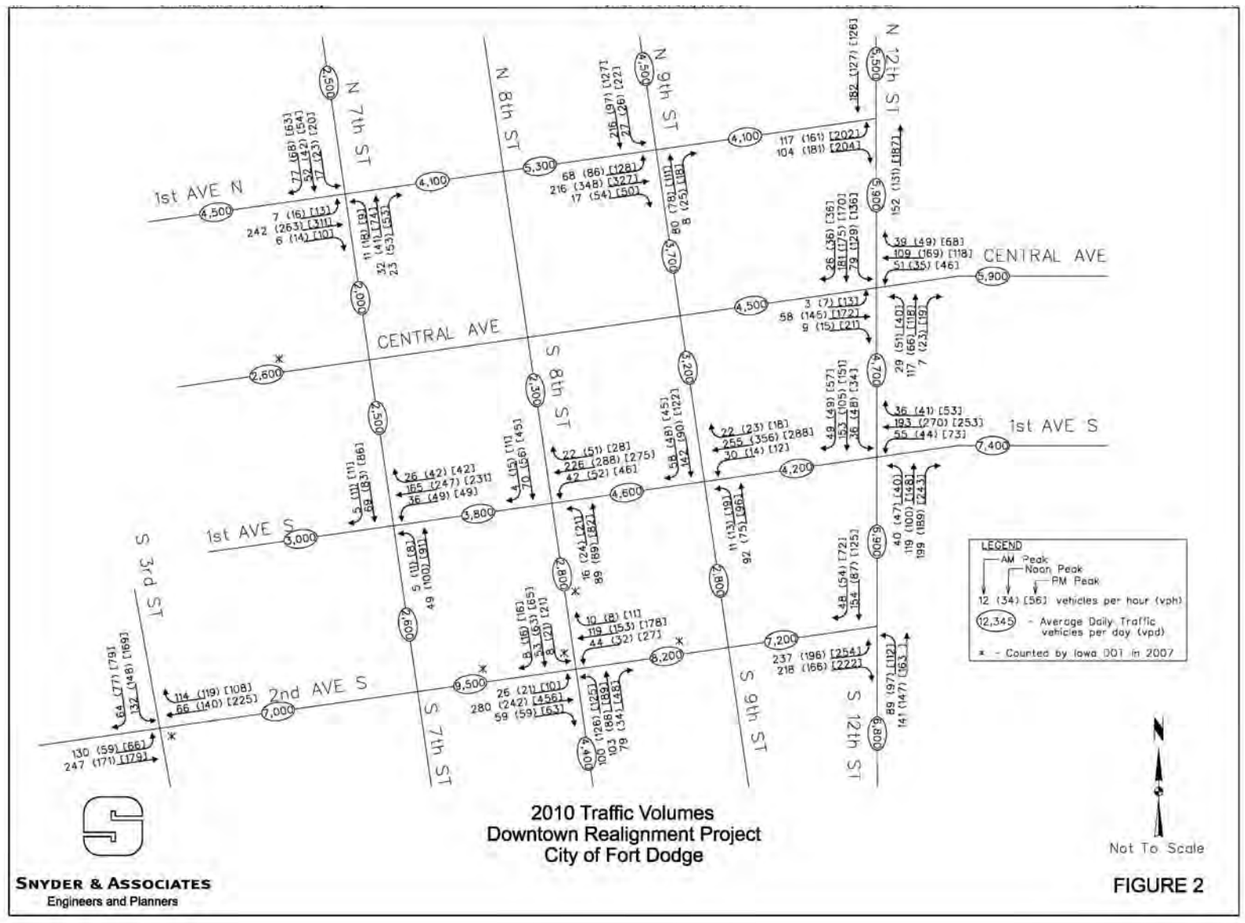
- Most locations increased in AADT until a peak in either 1999 or 2003.
- A few locations had a tremendous increase in AADT for a single count year then returned to previous levels.
- After 2003, most locations decreased in AADT.
- AADTs in 2007 or 2010 are at or below 1987 or 1991 levels.

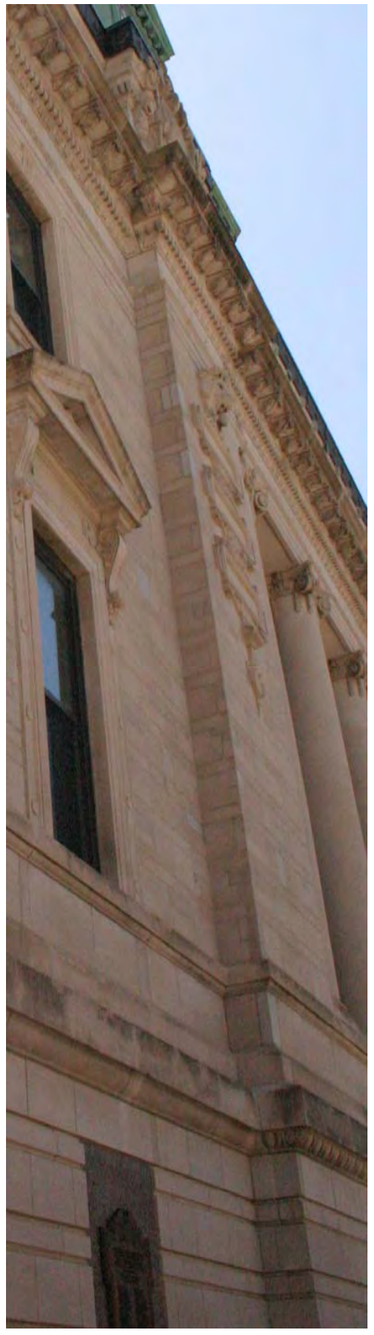
- *Historical Population Trends*

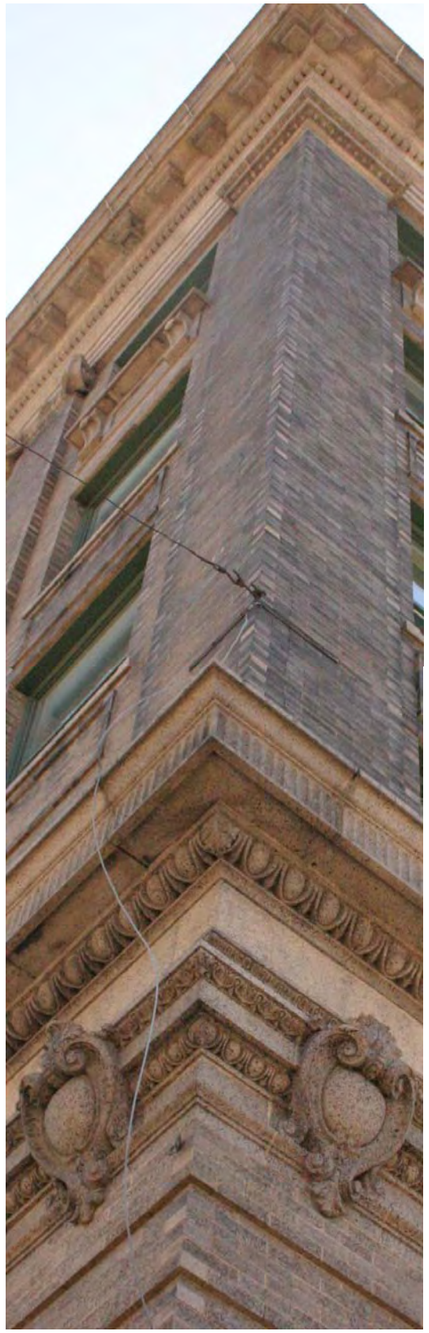
Research was conducted online and found census data for Fort Dodge dating back to 1860. The population of Fort Dodge continually grew until the 1970 Census at which the City had a population of 31,263. Since 1970, the population has continually decreased and as of the 2000 Census, the City had a population of 26,309 or about the same population as in the 1950's.

- *Growth Rate*

This information shows a declining pattern for traffic, which is likely related directly to the population decline. However, for a conservative traffic analysis, it is recommended to proceed using a 0.5% per year growth rate to make sure possible growth is included in the analysis and to reflect a positive result from the proposed actions described on this plan for the Downtown area. Therefore, over a 20-year analysis period, traffic is expected to grow approximately 10% from the 2010 levels.







- *Downtown Traffic Diversion*

The following are a list of assumptions used to determine the diversion traffic volumes:

1. 2nd Ave S is closed between S 5th St and S 6th St
2. 2nd Ave S and 1st Ave S are connected by a newly constructed street segment.
3. IA Highway 926 is reassigned to 1st Ave S. along the east-west portion and maintained along S. 8th St for the north-south portion.
4. 1st Ave S and 1st Ave N are converted to two-way traffic.
5. Most eastbound traffic on 2nd Ave S was diverted to 1st Ave S.
6. Turning patterns on 2nd Ave S was kept consistent when changed to 1st Ave S.
7. Equal traffic volumes were removed from eastbound left turning at S 12th St and northbound right turning on S 12th St to 1st Ave S.
8. Some traffic on 2nd Ave S was diverted from/to S 8th St & S 12th St along 3rd Ave S.
9. Traffic volumes surrounding analysis area were kept constant (west of S 3rd St, east of S 12th St, south of 3rd Ave S, and north of 1st Ave N).
10. Minimal traffic was transferred between 1st Ave N and 1st Ave S due to two-way operation.
11. Minimal traffic was diverted from Central Ave.

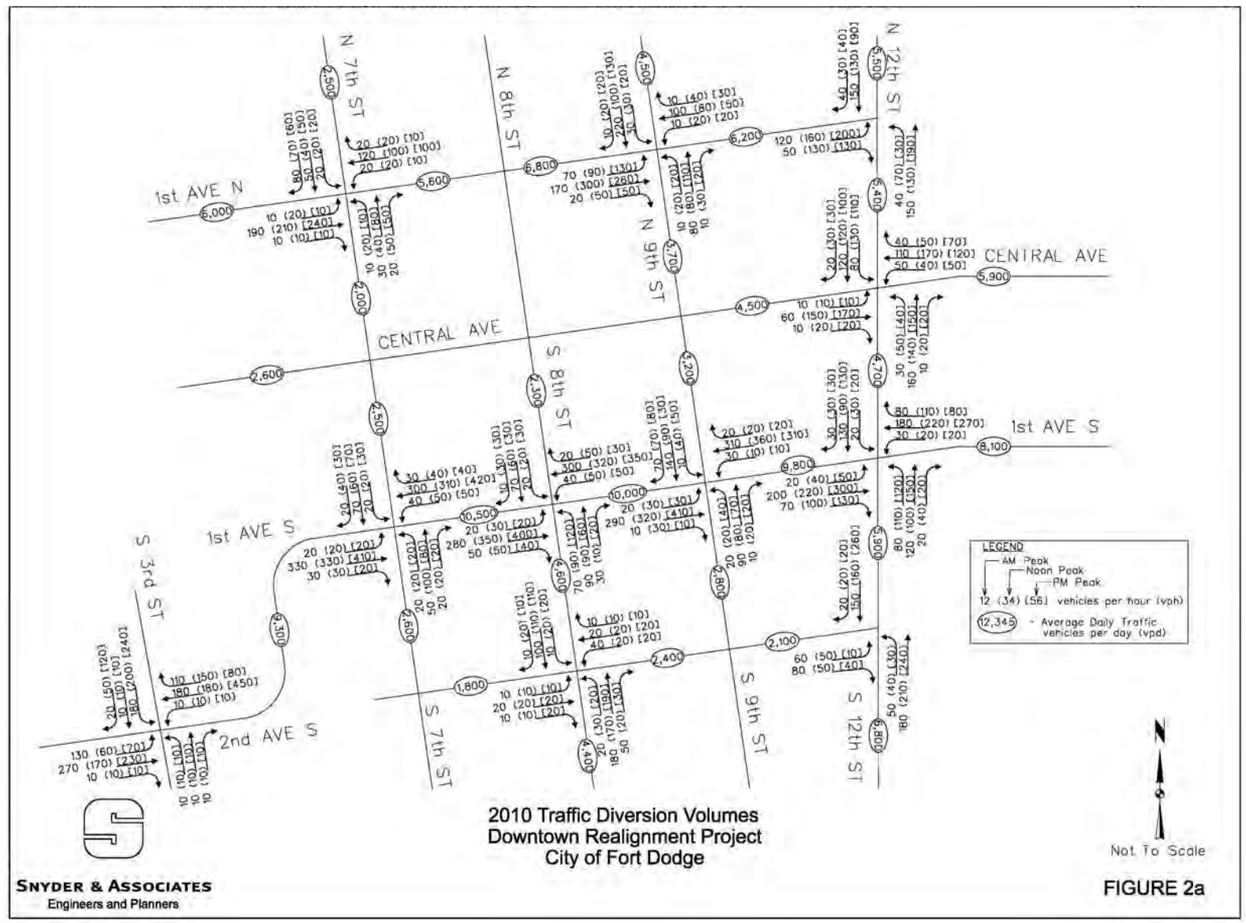


Figure 2 shows the 2010 estimated traffic volumes (peak hour and daily) for the existing street network. Figure 2a represents the 2010 estimated volumes after the realignment is complete. The following are some key observations from these projections:

1. Daily Traffic
   a. 1st Ave S doubles to 10,000 vpd.
   b. 2nd Ave S decreases to 2,000 vpd.
   c. 1st Ave N increases to 6,000 vpd.
   d. Central Ave remains constant.
2. Peak Hour Traffic
   a. Eastbound traffic on 1st Ave S ranges from 300 to 500 vph.
   b. Westbound traffic on 1st Ave N ranges from 100 to 150 vph.

vpd = vehicles per day
vph = vehicles per hour

These diverted traffic volumes represent expected traffic if the realignment occurs west of S 7th St. Generally, the total traffic expected on any of the Alternatives A-E (see Section 4 of this report for alternatives) is relatively equal from an east-west corridor standpoint of daily demand in the 10,000 vpd range and peak hour range of 1,000 vph. The conversion of the 1st Ave pairs to two-way traffic is anticipated in any alternative. First Ave S would serve as the major corridor in Alternatives A and B, a split between 1st Ave S and 2nd Ave S in Alternative C, and more emphasis on 2nd Ave S in Alternatives D and E.

Subtle changes in turning movements would exist between alternatives at particular intersections. Those changes would not be significant enough to cause major changes in volumes to the point that existing or proposed street network would be compromised due to capacity failure. As such, the traffic volumes associated with each alternative would not be the sole reason for an alternative to be removed from further consideration.

Intersection Capacity Analysis – Downtown

Additionally, traffic operations are analyzed to compare existing roadway functional geometry and traffic control to the proposed realignment. This study details intersection operations in the Downtown Area for 2010 year traffic and future 2030 year traffic utilizing existing geometry and the proposed realignment.

Intersection capacity analysis was performed to determine current operational characteristics and proposed geometry requirements for the realignment. The capacity analysis was performed in *Synchro 7* traffic analysis software, utilizing Highway Capacity Manual methods. Table 4 details how Level Of Service (LOS) is defined per intersection, via average control delay per vehicle. Generally, intersections with LOS D or above are considered to function adequately; intersections with LOS E or F are considered to be operating overcapacity and poorly, where the traffic demand exceeds the ability of the intersection to handle it within the given peak traffic demand hour.

Table 4: Level of Service Definition

Average Control Delay per Vehicle (seconds)		
LOS	Signalized Intersections	Unsignalized Intersections
A	Less than 10	Less than 10
B	10 to 20	10 to 15
C	20 to 35	15 to 25
D	35 to 55	25 to 35
E	55 to 80	35 to 50
F	Greater than 80	Greater than 50

- *2010 Existing Geometry and Volumes (2010 Existing)*

  Tables 5, 6, and 7 show 2010 LOS at the analyzed intersections. Notable capacity analysis findings for 2010 Existing Geometry and Volumes include:

  1. All signalized intersections currently operate at LOS A or B in all peak hours.
  2. No one time period has the worst operations at all intersections.

- *2010 Proposed Geometry and Diverted Traffic Volumes (2010 Build)*

  The proposed realignment includes:

  1. Closing 2nd Ave S. between S. 5th St and S. 6th St.
  2. Closing 1st Ave S. near S. 6th St.
  3. Constructing a connective street from 2nd Ave S. near S. 5th St to 1st Ave S. near S. 6th St. and reconnecting S. 6th St. to realignment.
  4. This new route was analyzed as a 3-lane, two-way corridor with parking from S. 3rd St east to S. 12th St.
  5. IA Hwy 926 is reassigned to this route.
  6. The intersection of 1st Ave S. and S. 12th St is a single lane roundabout or a signalized intersection with S. 11th St. being disconnected from 1st Ave S.
  7. 1st Ave N. is converted to a two lane, two way corridor between N. 7th St and N. 12th St.
  8. Existing traffic signals along 2nd Ave S. are converted to two-way stop, stopping traffic along 2nd Ave S.
  9. Existing traffic signals along 1st Ave N. are converted to two-way stop, stopping the side street except N. 9th St intersection would be converted to a four-way stop and 1st Ave N. would stop at N. 12th St.

  Traffic volumes for this new geometry were discussed on the previous page. The LOS for this analysis can be found on Tables 5, 6, and 7. Notable findings for the Downtown 2010 Build capacity analysis include:

  1. All signalized intersections could operate at LOS A or B in all peak hours.
  2. No one time period has the worst operations at all intersections.
  3. More intersections operate at LOS B due to the two-way traffic on 1st Ave N. and 1st Ave S.
  4. The roundabout would operate at LOS A and a signal at 1st Ave S. and S. 12th St would operate at LOS B for all periods.
  5. At 2nd Ave S. and S. 8th St, the worst LOS is B for the stop controlled approaches.
  6. Some of the stop controlled approaches at the other two-way stop controlled intersection operate at LOS C.
  7. The four-way stop controlled intersection of 1st Ave N. and N. 9th St would operate at LOS C.

- *2030 Existing Geometry and Future Volumes (2030 No Build)*

  In the 2030 No Build scenario, all traffic control was kept the same as currently operating. Traffic volumes were grown by 0.5% per year (or 10%) from 2010 volumes as discussed in the Traffic Projections and Diversion memo.

  The LOS for the 2030 No Build scenario can be found on Tables 5, 6, and 7. Notable findings for the 2030 No Build capacity analysis include:

  1. Operations are similar to 2010 Existing. Delays increase a small amount (due to increased traffic volumes), but are not reflected in LOS change.

Table 5: AM Peak Hour LOS

Intersection	2010 Existing	2010 Build	2030 No Build	2030 Build
1st Ave S. & S. 12th St	B	A* (B)	A	A* (B)
2nd Ave S. & S. 3rd St	A	B	B	B
Central Ave & 12th St	B	B	A	B
1st Ave N. & N. 12th St	A	C**	B	C**
1st Ave S. & S. 7th St	A	B	A	B
1st Ave N. & N. 7th St	B	B**	B	B**
1st Ave S. & S. 8th St	A	B	A	B
2nd Ave S. & S. 8th St	A	B**	A	B**
1st Ave S. & S. 9th St	A	B	A	B
1st Ave N. & N. 9th St	A	B##	A	C##

* - Single Lane Roundabout (Signalized)
** - Two-Way Stop Controlled
- Four-Way Stop Controlled

Table 6: Noon Peak Hour LOS

Intersection	2010 Existing	2010 Build	2030 No Build	2030 Build
1st Ave S. & S. 12th St	A	A* (B)	A	A* (B)
2nd Ave S. & S. 3rd St	A	B	A	B
Central Ave & 12th St	B	B	A	B
1st Ave N. & N. 12th St	B	C**	B	C**
1st Ave S. & S. 7th St	B	B	B	B
1st Ave N. & N. 7th St	B	B**	B	C**
1st Ave S. & S. 8th St	A	B	A	B
2nd Ave S. & S. 8th St	A	B**	A	B**
1st Ave S. & S. 9th St	B	B	A	B
1st Ave N. & N. 9th St	A	C##	A	D##

* - Single Lane Roundabout (Signalized)
** - Two-Way Stop Controlled
- Four-Way Stop Controlled

Table 7: PM Peak Hour LOS

Intersection	2010 Existing	2010 Build	2030 No Build	2030 Build
1st Ave S. & S. 12th St	B	A* (B)	B	A* (B)
2nd Ave S. & S. 3rd St	A	B	A	B
Central Ave & 12th St	A	B	A	B
1st Ave N. & N. 12th St	B	C**	B	C**
1st Ave S. & S. 7th St	A	B	A	B
1st Ave N. & N. 7th St	B	C**	B	C**
1st Ave S. & S. 8th St	A	B	A	B
2nd Ave S. & S. 8th St	B	B**	A	B**
1st Ave S. & S. 9th St	A	B	A	B
1st Ave N. & N. 9th St	A	C##	A	D##

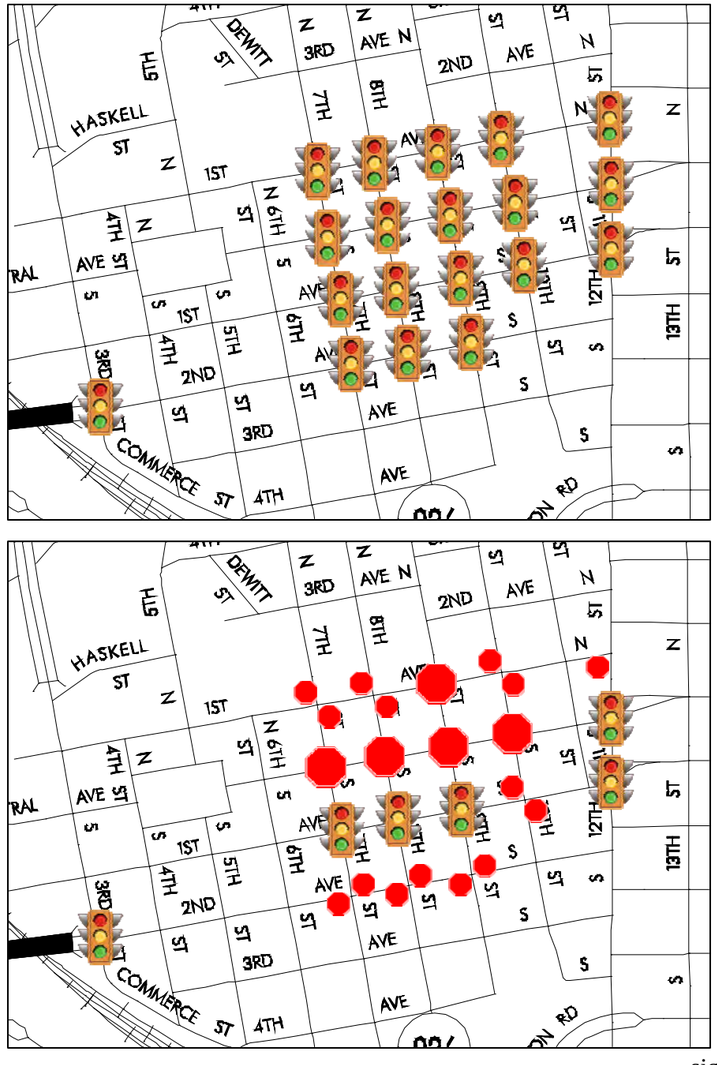
* - Single Lane Roundabout (Signalized)
** - Two-Way Stop Controlled
- Four-Way Stop Controlled

Recommendations

Based on this analysis, the proposed realignment geometry could operate at acceptable levels now and in the future. This geometry includes converting 1st Ave S. to two-way traffic on a three-lane cross-section and maintaining traffic signals at the intersections with S. 7th St, S. 8th St, and S. 9th St, the intersection of 1st Ave S. and S. 10th St as a two-way stop (stopping S. 10th St), the intersection of 1st Ave S. and S. 12th St as a single lane roundabout or reconstructing as a signalized intersections with revised geometrics, 2nd Ave S. to a two-lane cross-section with parking and removing the traffic signals at S. 7th St, S. 8th St, and S. 9th St and replacing them with stop-controlled approaches along 2nd Ave S. and 1st Ave N. to two-way traffic with parking and all intersections to two-way stop controlled, stopping the crossing street, except at N. 9th St (four-way stop) and stopping 1st Ave N. at N. 12th St. By technical highway capacity methods and criteria the changes can all be accommodated within the existing roadway network, and generally within existing roadway widths, and parking conditions. It is important to note that drivers will experience a change in mobility and delays. Thus the average citizen may "believe" that traffic congestion or delays are significantly worse from prior conditions, but from a volume/demand to capacity standpoint conditions are above typical design standards of LOS D or even a LOS C for a community the size of Fort Dodge.

Figure 3 illustrates the existing signal system in the Downtown area and what is proposed for changes. The intersections with a signal head represent a location for an existing or proposed traffic signal. Intersections with a single large red octagon represent a four-way stop condition whereas intersections with smaller red octagons represent a stop condition in the respective approaches only. An example of this is shown in the "Recommended Traffic Control" drawing where a four-way stop condition is recommended at the intersection of 1st Ave N. and N. 9 St. At the intersection of 1st Ave N. and N. 8th St a two-way stop is proposed in the northbound and southbound directions.

Figure 3: Existing Downtown Traffic Control (top) and Recommended Traffic Control (bottom)



Intersection Capacity Analysis – East Retail Area

As part of the Downtown Realignment Project, traffic operations are analyzed at three signalized intersections along 1st Ave S. east of the Downtown area. This memo summarizes these results and recommends improvements based on 2010 traffic counts and 2030 traffic projections. These intersections include S. 15th St, S. 25th St, and S. 29th St.

In 1994, the intersection of 1st Ave S. and S. 15th St was studied as part of the Iowa Department of Transportation Traffic Engineering Assistance Program (TEAP). Prior to that study, this intersection was a two-phase traffic signal with only permissive left turns on all four approaches. The 1994 study found that there was a significant left turn crash history for the north and south approaches. This study recommended converting the phasing to split phase north/south and keeping permissive lefts east/west to eliminate some of the left turn crash potential, and were implemented by the City. In the Crash History memo, completed as a part of this project, the crash rate improved at the intersection, but remains at or above the state average for intersections. This recent review found that the majority of crashes are rear end crashes.

Intersection capacity analysis was performed to determine current operational characteristics and recommended improvements for these intersections. The capacity analysis was performed in *Synchro 7* traffic analysis software, utilizing Highway Capacity Manual methods. Table 4 details how level of service (LOS) is defined per intersection, via average control delay per vehicle.
Generally, intersections with LOS D or above are considered to function adequately; intersections with LOS E or F are considered to be operating overcapacity and poorly.

- *Improvements Analyzed*

For 1st Ave S. and S. 15th St, 3 alternatives were analyzed. The first alternative keeps the traffic signal operating as it currently does (permissive left turn phasing east/west and split phasing[1] north/south) [Signal – No Changes]. The second alternative changes

[1] Left turn traffic yields to oncoming, proceed on green ball.

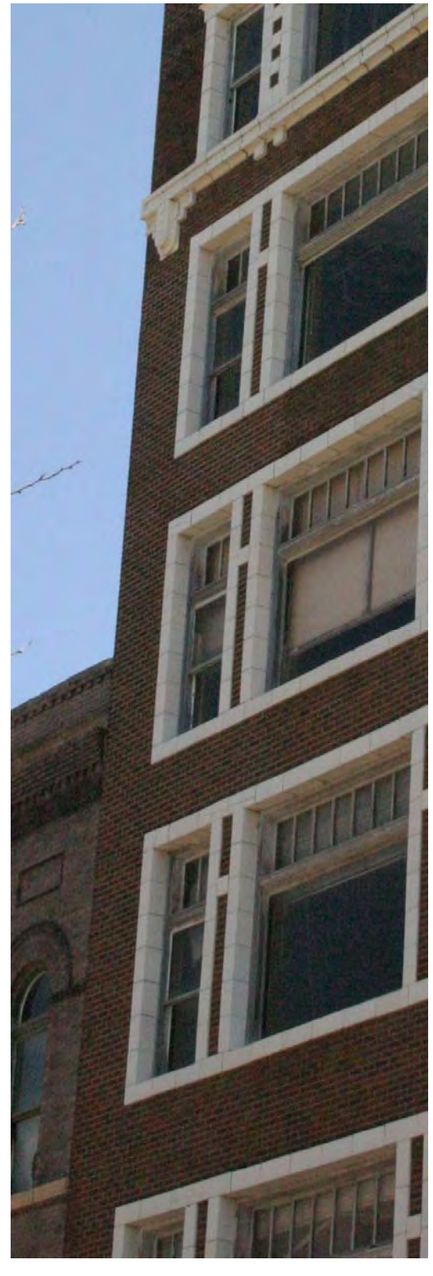


Table 8: AM Peak Hour - LOS & Queuing (Post Realignment)

Intersection	Control	2010			2030		
		LOS	Queue		LOS	Queue	
			Max Length (ft)	Approach		Max Length (ft)	Approach
1st Ave S. & S. 15th St	Signal - No Changes	B	138	North	C	166	North
	Signal - Only Permissive Lefts	B	117	North	B	146	North
	Signal - Add Leading Left – North Approach	B	103 81	East/West North	B	111	North
1st Ave S. & S. 25th St	Signal - No Changes	B	186	West	C	114	West
	Signal - Add Right Turn Lanes	B	100	West	B	118	West
	Single Lane Roundabout	A	63	West	A	73	West
1st Ave S. & S. 29th St	Signal - No Changes	B	103	West	C	136	West
	Signal - Add Right Turn Lanes	B	94	East	B	74	East
	Single Lane Roundabout	A	36	West	A	41	West
	Single Lane Roundabout with Right Turns	A	24	West	A	27	West

the north/south phasing to a permissive left[2] turn, giving north and south traffic the green indication at the same time [Signal – Only Permissive Lefts]. The final alternative kept the four- lane cross-section on S 15th St and added a leading left[3] turn phase to the north approach to the intersection [Signal – Add Leading Left – North Approach].

[2] Opposing directions move during independent green, not simultaneously.
[3] Left turns proceed on arrow with adjacent through.

For 1st Ave S and S 25th St, 3 more alternatives were analyzed. The first alternative, again, keeps the traffic signal operating as it currently does (protected only lefts east/west/north/south) [Signal – No Changes]. The second alternative added right turn lanes to all four approaches, converted left turn phasing to

protected/permissive, and added an overlap right turn phasing to the west and south approaches [Signal – Add Right Turn Lanes]. The third alternative converted the intersection to a single lane roundabout [Single Lane Roundabout].

For 1st Ave S and S 29th St, the same 3 alternatives were analyzed as at S 25th St and a fourth alternative was also considered. This fourth alternative converted the intersection to a single lane roundabout with right turn lanes on all four approaches [Single Lane Roundabout with Right Turns].

- *Capacity Analysis*

Tables 8, 9, and 10 show 2010 and 2030 LOS and queuing analysis for these intersections after the realignment is constructed. Based strictly on LOS, these intersections do not need improvement. However, with the nature of Fort Dodge and driver expectation of better traffic operations, the queuing that result from these LOS was analyzed. The queuing information reports the longest 95th percentile queue length on any of the four approaches to the intersection. On average, a 250 foot queue represents 10 cars waiting at the traffic signal. Typically, the north approach to 1st Ave S. and S. 15th St, west approach to the S. 25th St intersection, and either east or west approach to the S. 29th St intersection has the worst queuing for each intersection. The alternative highlighted for each intersection in the different tables represents the better LOS and minimum queuing.

Photo of 1st Avenue S. and S. 25th Street Looking West

Table 9: Noon Peak Hour - LOS & Queuing (Post Realignment)

Intersection	Control	2010			2030		
		LOS	Queue		LOS	Queue	
			Max Length (ft)	Approach		Max Length (ft)	Approach
1st Ave S & S 15th St	Signal - No Changes	B	206 124	East North	C	191	North
	Signal - Only Permissive Lefts	B	124	North	B	154	North
	Signal - Add Leading Left – North Approach	B	136 97	East North	B	170 101	East North
1st Ave S & S 25th St	Signal - No Changes	D	621	West	C	317	West
	Signal - Add Right Turn Lanes	B	179	West	B	247	East/West
	Single Lane Roundabout	A	270 204	East West	B	405 282	East West
1st Ave S & S 29th St	Signal - No Changes	D	350	West	C	243 217	South East/West
	Signal - Add Right Turn Lanes	B	124 85	East West	B	143 140	East South
	Single Lane Roundabout	A	178 175	South West	B	249 239	South West
	Single Lane Roundabout with Right Turns	A	93 88	East West	A	111 105	East West

Recommendations - 1st Ave S. & S. 15th St

Improvements include:

- Add a leading left turn phasing for the north approach (southbound traffic).
- Retime intersection to accommodate new phasing.

These improvements will provide adequate operations based on current and projected 2030 traffic volumes. However, other considerations were taken into account in selecting these improvements. Split phasing was initially implemented to reduce left turn crashes.

Returning the intersection to a permissive operation north/south would increase the crash potential at the intersection to the same levels prior to split phasing. Adding the leading left turn phase to the north approach increases the left turn crash potential from split phasing, but not to the level of permissive only. The only other way to improve operations at this intersection would be to consider converting the 15th St corridor to a three-lane cross-section, beyond only the 1st Ave S. intersection (possibly from 5th Ave S north through the City).

Photo of 1st Avenue S. and S. 29th Street Looking West

The Fire Department is located between Central Ave and 1st Ave S. on S. 15th St. The Department has requested consideration for a pre-emptive system to allow trucks easier access to 1st Ave S. A pre-emptive system can be implemented at the intersection to designate right-of-way to traffic along S 15th St. It is recommended that the system be activated within the Fire Department Building (either through a hard-wired or wireless system to the signal controller) and have a predetermined time to clear traffic from impeding Fire/EMS Equipment prior to releasing opposing traffic. This system could be implemented for the intersection of Central Ave & 15th St as well. Any system that is vehicle activated may not clear traffic quickly for the Fire Department. However, a vehicle activated pre-emptive system is an option at other intersections within the City of Fort Dodge.

- *Recommendations - 1st Ave S. & S. 25th St*

Improvements include:

- Add 250 ft right turn lanes east/west.
- Add 150 ft right turn lanes north/south.
- Improve all corner radii.

- *Recommendations - 1st Ave S. & S. 29th St*

Improvements include:

- Add 200 ft right turn lanes east/west.
- Add 150 ft right turn lanes north/south.
- Improve all corner radii.
- Reconstruct entire traffic signal.

The S. 25th St and S. 29th St intersections are situated within the East Retail Area, consideration should be made for potential high traffic volume periods (such as Holiday shopping). For a comparison, traffic was grown to a point where an LOS for a movement at one intersection deteriorated to D and any more growth would cause LOS E or worse (no consideration for queuing). The single lane roundabout at S. 25th St could handle 25% more traffic than the Noon peak hour and the roundabout with right turn lanes at S. 29th St could handle 50% more traffic than the PM peak hour. To improve capacity of the roundabout, more geometry would be needed, either creating free right turn lanes at S. 25th St or constructing a two-lane roundabout. The slip right turn lanes could be problematic, operationally, merging the slip right turn lane into the circulating traffic near the exit of the roundabout. The two-lane roundabout would require additional capacity entering and exiting on all approaches. However, if both of these intersections were kept as a traffic signal and added right turn lanes to all approaches, each could handle 80% more traffic (both Noon and PM peak hours). Therefore, based on potential commercial traffic, it is recommended to maintain signal operation at the S. 25th St and S. 29th St intersections and build right turn lanes on each approach. Additional, if the commercial area continues to grow, the right turn lanes at the intersections can be converted to through lanes if/when 1st Ave S. is widened to a four-lane roadway with left turn lanes.

Table 10: PM Peak Hour - LOS & Queuing (Post Realignment)

Intersection	Control	2010			2030		
		LOS	Queue		LOS	Queue	
			Max Length (ft)	Approach		Max Length (ft)	Approach
1st Ave S & S 15th St	Signal - No Changes	B	259 142	East North	C	212	North
	Signal - Only Permissive Lefts	B	190 132	East North	B	168 162	West North
	Signal - Add Leading Left – North Approach	B	169 100	East North	B	195 112	North East
1st Ave S & S 25th St	Signal - No Changes	C	449	West	C	229 219	East West
	Signal - Add Right Turn Lanes	B	158 147	East West	B	247	West
	Single Lane Roundabout	A	140 136	East West	A	189 182	East West
1st Ave S & S 29th St	Signal - No Changes	D	412 315	West East	D	382	West
	Signal - Add Right Turn Lanes	B	164	East	B	245	West
	Single Lane Roundabout	B	292 283	East West	C	449 435	South East/West
	Single Lane Roundabout with Right Turns	A	128 116	East West	A	172 157	East West

Realignment Alternatives

When contemplating a proposed action that could represent a significant investment of public funds, it is important to consider alternatives, including a "do nothing" alternative, commonly referred to as the "No Build" Alternative. Reasonable and distinct "build" alternatives are contemplated and considered. Then all alternatives are compared.

The process for determining the best alternative involves comparison with the main points of the project Purpose and Need. The alternative that best accomplishes the purpose and need is considered the "Preferred Alternative."

Recall the Proposed Action, and the Purpose of the Proposed Action from earlier in the report.

The needs for the proposed action were identified as:

- Create efficient and continuous complete street corridor from Downtown to the East Retail Area.
- Improve local access to and within Downtown core.
- Support City Goal of compact Downtown District.

It is against these needs that each alternative developed was analyzed.

<u>The No-Build Alternative</u>

The existing available route from the Karl King Bridge to the Crossroads Mall area follows 2nd Avenue S. to a left turn on 12th Street, to a right turn on 1st Avenue S. over the Veteran's Bridge and east to S. 25th Street. 1st Avenue S. carries two-way traffic east of S. 12th Street, but is one-way westbound, west of S. 12th Street.

<u>Build Alternatives</u>

The build alternatives generally envision a realignment of 2nd Avenue S to 1st Avenue S, with 1st Avenue South modified to two-way traffic. 1st Avenue North, the paired one-way eastbound route to 1st Avenue S as the westbound route, would also be modified to two-way traffic.

Reasonable alignment alternatives, with the Purpose and Need in mind, would realign 2nd Avenue S. to 1st Avenue S. somewhere between S. 3rd Street and S. 12th Street. S. 3rd Street intersects 2nd Avenue S. immediately east of the Karl King Bridge. It is desirable to retain a segment of tangent (straight) alignment in approach to the bridge for sight distance, particularly if the intersection to S. 3rd Street is retained. S. 3rd Street extends north to 11th Avenue N., therefore, retaining the intersection is recommended. Realignment alternatives should begin no further west than S. 4th Street, to provide a one-block tangent approach to the S. 3rd Street intersection and the bridge.

- *Design Speed*

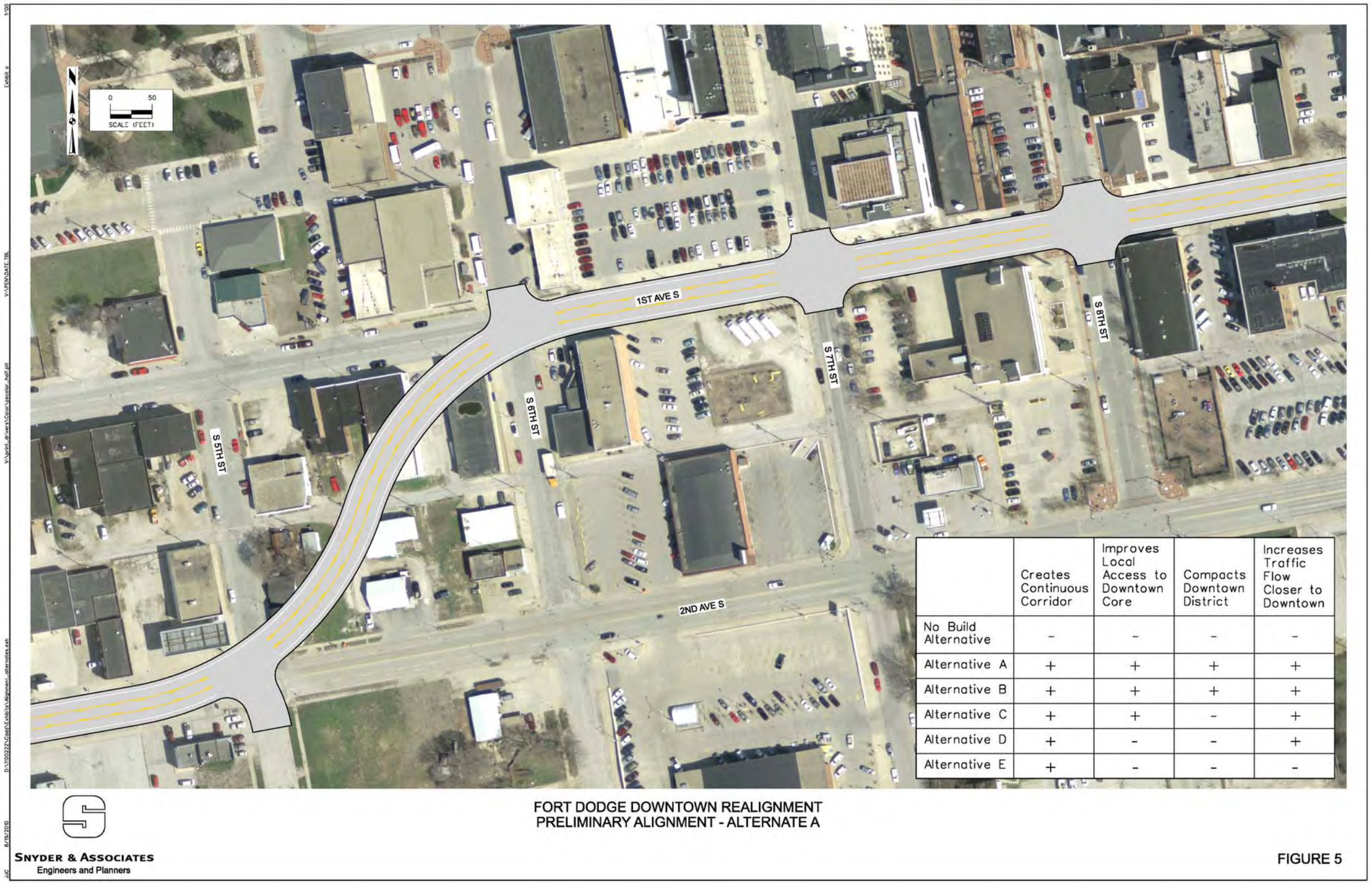
Since 2nd Avenue S. and 1st Avenue S. are parallel, a realignment will require a set of "reverse curves" which is made of two horizontal curves, one turning left, one turning right. It is best for the two curves to be of equal radius. The radius is largely determined by the design speed of the roadway. The design speed is generally 5 to 10 miles per hour (mph) faster than the intended posted speed limit. For example, a 40 mph design speed would be appropriate for a posted 35 mph, 65 mph design speed would be appropriate for a posted 55 mph.

2nd Avenue S. (which is Iowa Highway 926 / Business U.S. Highway 169) is currently posted 35 mph. 1st Avenue S. is currently posted 25 mph. This would correlate to design speeds of 40 and 30 mph, respectively.

A high speed facility is not contemplated, nor appropriate to the Purpose and Need. The lower the design speed, the tighter the radii can be for the horizontal curves.

Figure 4 illustrates the difference in alignment between 30 and 40 mph design speeds. The lower design speed allows the alignment change to occur in a smaller footprint, which would suggest fewer impacts to existing properties. Since 1st Avenue S is posted 25 mph, it seems appropriate to use 30 mph as the design speed for the contemplated alignment alternatives.

Figure 4: 30 mph vs 40 mph geometry



	Creates Continuous Corridor	Improves Local Access to Downtown Core	Compacts Downtown District	Increases Traffic Flow Closer to Downtown
No Build Alternative	-	-	-	-
Alternative A	+	+	+	+
Alternative B	+	+	+	+
Alternative C	+	+	-	+
Alternative D	+	-	-	+
Alternative E	+	-	-	-

FORT DODGE DOWNTOWN REALIGNMENT
PRELIMINARY ALIGNMENT - ALTERNATE A

SNYDER & ASSOCIATES
Engineers and Planners

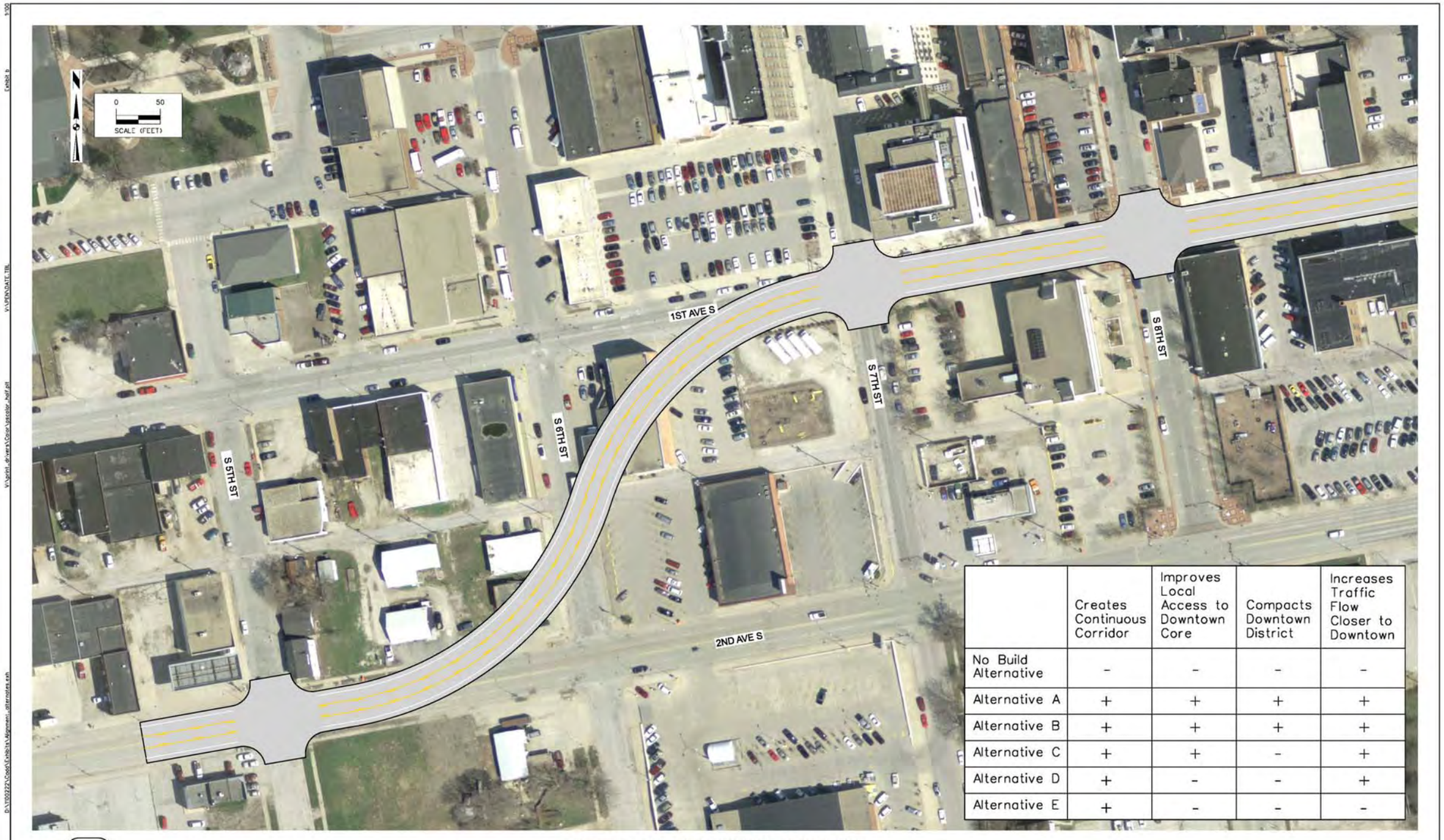
FIGURE 5

- *Alternative A (Figure 5)*

Alternative A is similar to the alignment considered in prior studies for the City of Fort Dodge. It begins approximately midblock between S. 4th and S. 5th Streets on 2nd Avenue S., and joins 1st Avenue S. near S. 6th Street.

- *Alternative B (Figure 6)*

Alternative B shifts the realignment just half a block east. This alignment starts immediately east of the S. 5th Street and 2nd Avenue S. intersection and ties in immediately west of the S. 7th Street and 1st Avenue S. intersection. Due to the skew angle, S. 6th Street would not connect to the new alignment.



	Creates Continuous Corridor	Improves Local Access to Downtown Core	Compacts Downtown District	Increases Traffic Flow Closer to Downtown
No Build Alternative	-	-	-	-
Alternative A	+	+	+	+
Alternative B	+	+	+	+
Alternative C	+	+	-	+
Alternative D	+	-	-	+
Alternative E	+	-	-	-

FORT DODGE DOWNTOWN REALIGNMENT
PRELIMINARY ALIGNMENT - ALTERNATE B

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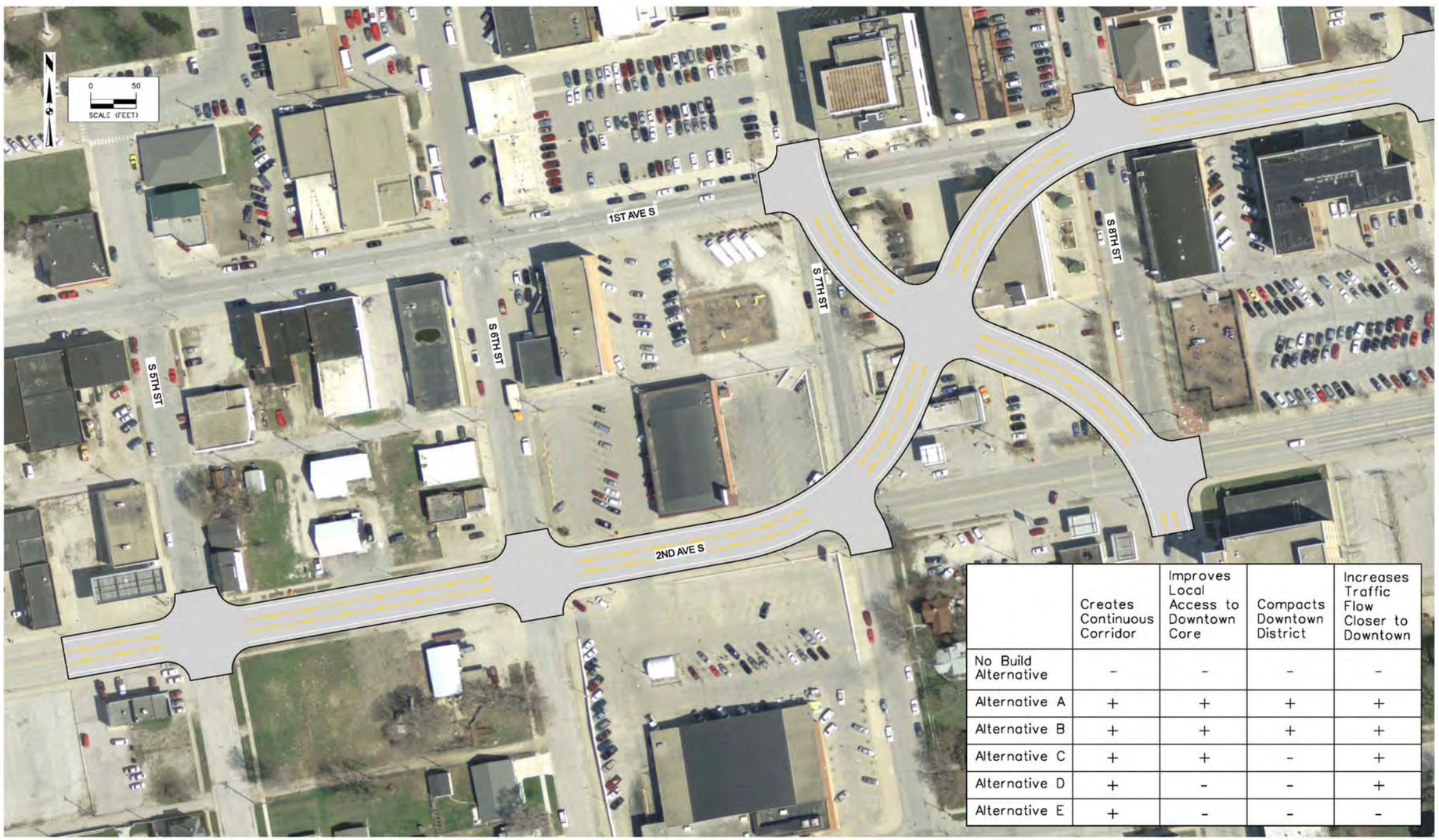
Engineers and Planners

FIGURE 6



	Creates Continuous Corridor	Improves Local Access to Downtown Core	Compacts Downtown District	Increases Traffic Flow Closer to Downtown
No Build Alternative	-	-	-	-
Alternative A	+	+	+	+
Alternative B	+	+	+	+
Alternative C	+	+	-	+
Alternative D	+	-	-	+
Alternative E	+	-	-	-

FORT DODGE DOWNTOWN REALIGNMENT
PRELIMINARY ALIGNMENT - ALTERNATE C

SNYDER & ASSOCIATES
Engineers and Planners

FIGURE 7

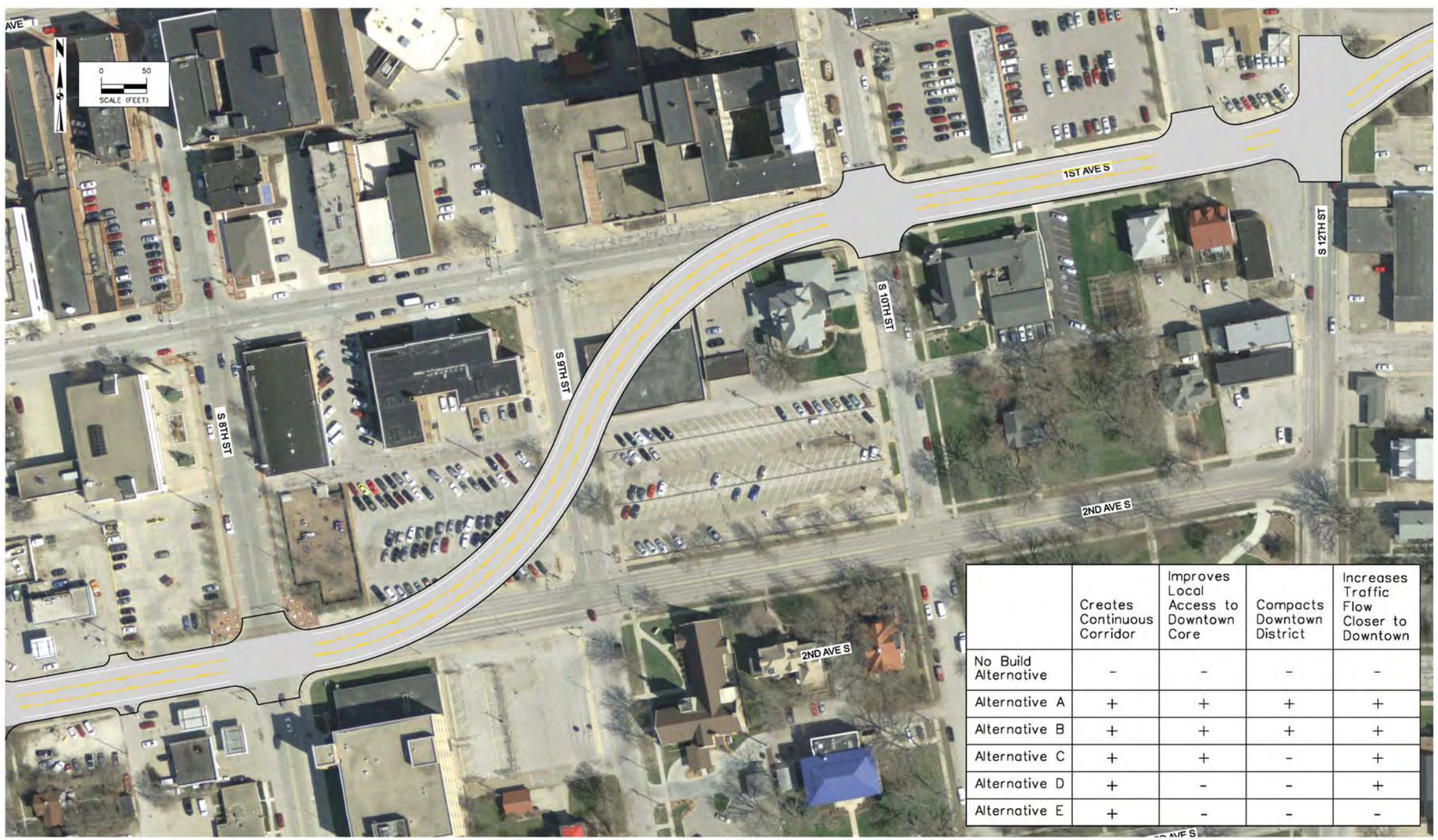
- *Alternative C (Figure 7)*

Alternative C shifts the realignment east to begin midblock between S. 6 and S. 7th Streets, and joins 1st Avenue S. at the S. 8th Street intersection. This alternative also explores a cross block connection from S. 7th Street to S. 8th Street. 7th Street extends a significant distance north along the Des Moines River, and also serves the river front to the south by extending south under the Kenyon Road bridge over the railroad and tying into Meriweather Drive. 8th Street extends south as Iowa Highway 926 / Business U.S. Highway 169 to 5th Avenue S. (Business U.S. Highway 20), but ends a few blocks north of 1st Avenue S. at 4th Avenue N. The cross block connection creates a through north-south alignment as well as a through east-west alignment.

A similar connection from S. 9th Street, which extends significantly north to neighborhood areas, to S. 8th Street was also contemplated, but the alignment would match the angle of the 2nd Avenue / 1st Avenue connection, rather than crossing it. City Hall, which is considered individually eligible for the National Register, would also be impacted. This potential connection was not considered a viable alternative.

- *Alternative D (Figure 8)*

Alternative D shifts the realignment east to start immediately east of the S. 8th Street and 2nd Avenue S intersection and tie in immediately west of the S. 10th Street and 1st Avenue S. intersection. Due to the skew angle, S. 9th Street would not connect to the new alignment.



	Creates Continuous Corridor	Improves Local Access to Downtown Core	Compacts Downtown District	Increases Traffic Flow Closer to Downtown
No Build Alternative	-	-	-	-
Alternative A	+	+	+	+
Alternative B	+	+	+	+
Alternative C	+	+	-	+
Alternative D	+	-	-	+
Alternative E	+	-	-	-

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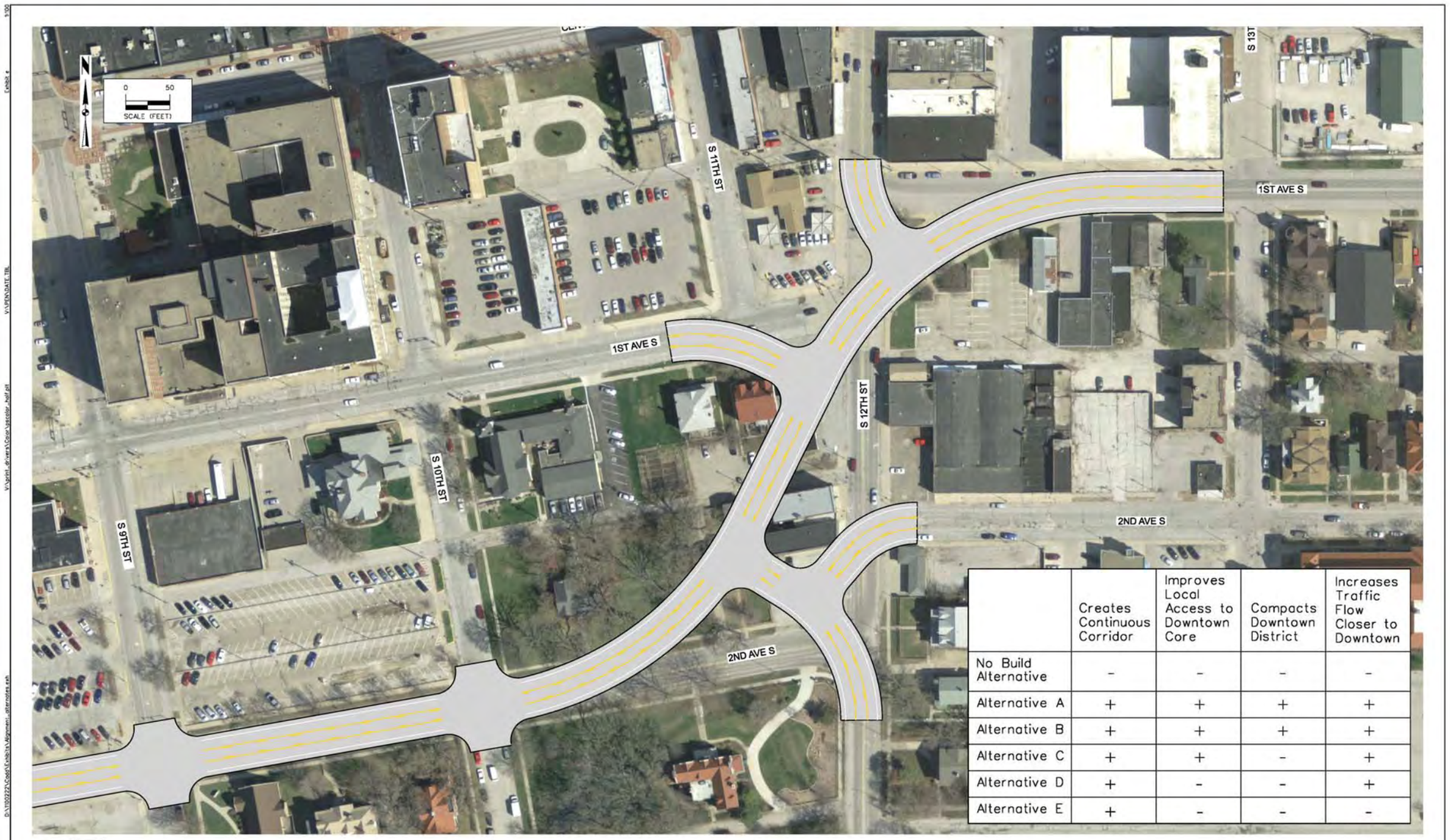
FORT DODGE DOWNTOWN REALIGNMENT
1ST AVE TO 2ND AVE REALIGNMENT
PRELIMINARY ALIGNMENT - ALTERNATE D

FIGURE 8



	Creates Continuous Corridor	Improves Local Access to Downtown Core	Compacts Downtown District	Increases Traffic Flow Closer to Downtown
No Build Alternative	-	-	-	-
Alternative A	+	+	+	+
Alternative B	+	+	+	+
Alternative C	+	+	-	+
Alternative D	+	-	-	+
Alternative E	+	-	-	-

FORT DODGE DOWNTOWN REALIGNMENT
1ST AVE TO 2ND AVE REALIGNMENT
PRELIMINARY ALIGNMENT - ALTERNATE E

SNYDER & ASSOCIATES
Engineers and Planners

FIGURE 9

- *Alternative E (Figure 9)*

Alternative E is essentially a "build" version of the No-Build route. It would improve the two intersection turns to reverse horizontal curves. The tie-in curve at the intersection of 1st Avenue S. and S. 12th Street matches the existing curvature of 1st Avenue S. in that location. Side street connections are particularly complex with this alignment. S. 12th Street, which has some importance as a north-south route is severed, and connections to 1st Avenue S. west of S. 12th Street and 2nd Avenue S. east of 12th Street are awkward. S. 11th Street would need to be closed at 1st Avenue S.

Alternatives where the realignment occurs east of S. 12th Street were not evaluated. The properties in the southeast corner of the intersection of 1st Avenue S. and S. 12th Street tat were purchased by the City were committed to sale in February 2010 to Fareway. Additionally, realigning the roadway east of S. 12th Street did not accomplish the purpose and need for the improvements.

Alternatives Analysis

To differentiate between the alternatives, they must be judged by how well they meet the Purpose and Need of the proposed action. Table 11 identifies the main points of the Purpose and Need, and indicates whether each alternative satisfies (+), or does not satisfy (-) those points.

Table 11: Alternative Analysis Matrix

	Creates Continuous Corridor	Improves Local Access to Downtown Core	Compacts Downtown District	Increases Traffic Flow Closer to Downtown
No-Build Alternative	-	-	-	-
Alternative A	+	+	+	+
Alternative B	+	+	+	+
Alternative C	+	+	-	+
Alternative D	+	-	-	+
Alternative E	+	-	-	-

All of the "build" alternatives create a continuous corridor. The No-Build still requires two intersection turns on and off S 12th Street.

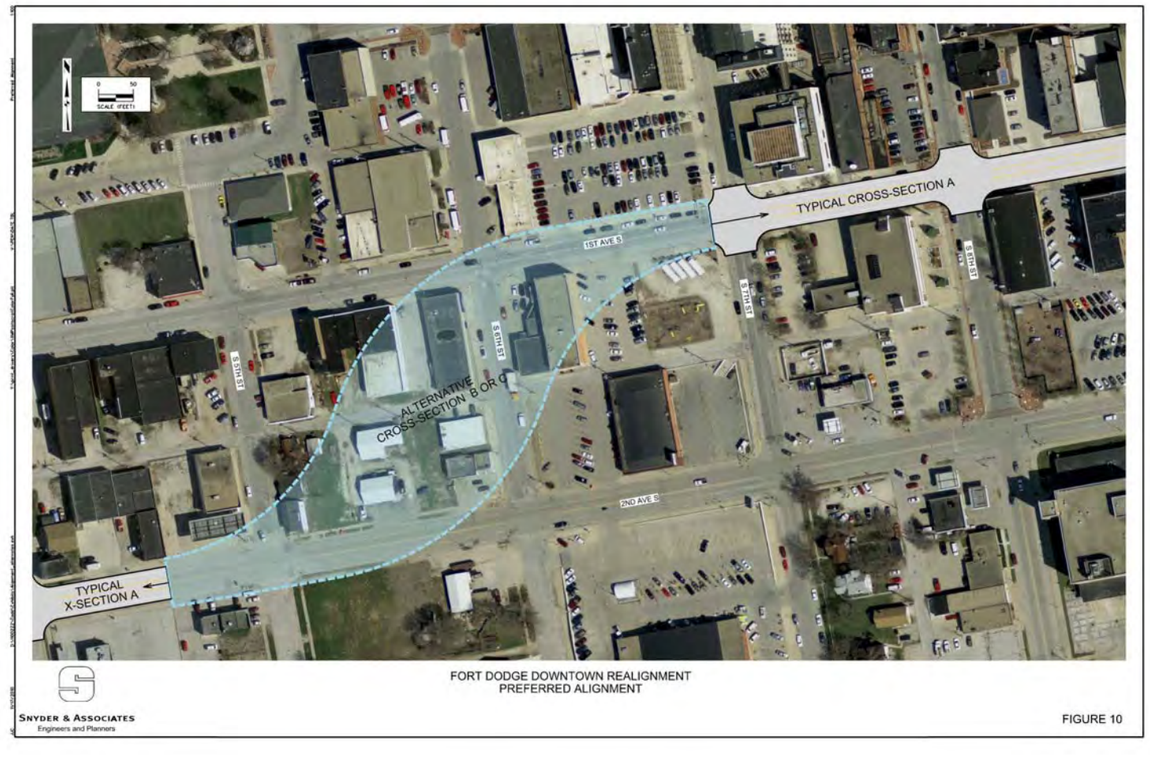
Alternatives A, B, and C improve access to the Downtown core by providing more direct access to Central Avenue via 6th, 7th, and 8th Streets, respectively. Alternatives D and E do not seem to improve access to the Downtown core, since improved access is via 10th and 12th Streets, respectively, which is the far east end of what is considered the Downtown core. Access is unimproved with the No-Build.

Only Alternatives A and B seem to compact the Downtown district. They allow a stronger potential for redevelopment south of 1st Avenue S to other uses. Alternatives C, D, E, and the No-build do not seem to compact the Downtown district appreciably.

Alternatives A, B, C, and D all move traffic closer to Downtown, although Alternative D is debatable since traffic is only closer to the very east end of Downtown.

Preferred Alternative and Design Corridor (See Figure 10)

Alternatives A and B seem to satisfy the Purpose and Need better than Alternatives C, D, E, and the No-Build. There is no compelling difference between Alternatives A and B in comparison with the Purpose and Need, so other factors need to be considered. Snyder & Associates, Inc. recommends setting a "Design Corridor" as the Preferred Alternative that encompasses the range of potential design alignment between Alternative A and Alternative B. See Figure 10. Within this envelope, the roadway should be designed to avoid and minimize impacts, while optimizing desirable traffic flow, modal accommodation, aesthetics, and service to adjacent land use.



Roadway Considerations

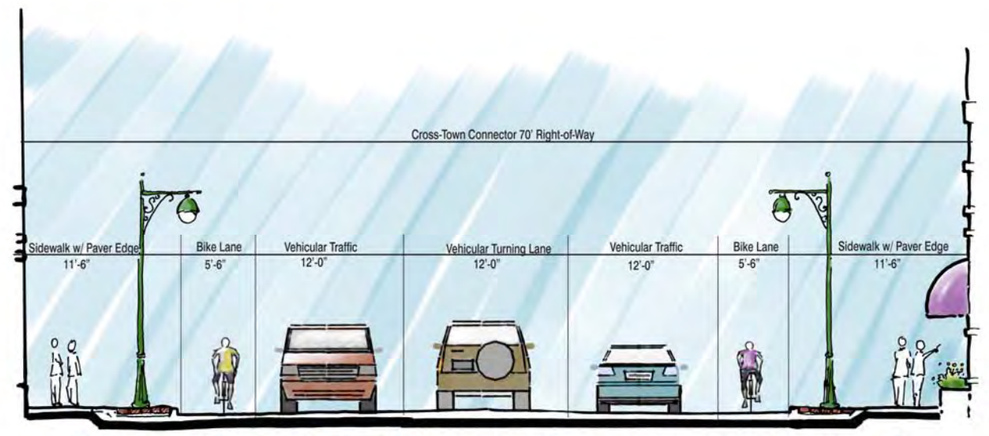
Existing 2nd Avenue S. is a four-lane undivided roadway. 1st Avenue S is two lanes westbound with parallel parking.

The traffic analysis for the Cross-town Connector anticipates an average daily traffic of 10,000 vehicles per day in 2010 and projects that volume to increase approximately 10% over the next 20 years. This traffic level is appropriate for a three-lane roadway, or one lane in each direction with a center left turn lane at intersections.

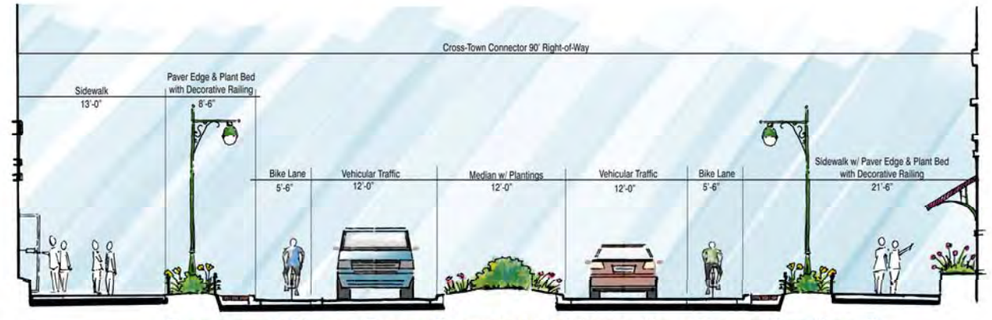
A four-lane roadway could be considered. However, left turns are made from the inside through lanes of an undivided four-lane roadway. When turning movements are frequent, this has the effect of limiting the through capacity, and the roadway functions similar to a 3-lane roadway. In addition, the conflicts created by left turning vehicles in the through lane create significant accident potential, including rear end collisions and side swipes by lane changing vehicles. Opposing left turning vehicles also can't see around each other, which increases the danger of a crash with oncoming traffic in the opposing outside lane. When comparing a three-lane roadway to a four-lane roadway within a fixed right-of-way of 70 feet, a three-lane provides additional opportunities such as parking along one side and/or the incorporation of bike lanes.

Lane widths are typically 12 feet by most design standards. However, in a heavily developed Downtown area, space is limited. Lanes 11 feet wide are allowable, and could be considered more appropriate for this roadway. High speeds are not desired. A narrower through lane width assists the concept of "side friction", or the sensation of speed felt by the driver. The majority of drivers will operate at a speed at which they feel safe and comfortable. If lanes or roadway clear zones are too wide, the driver has a sense of driving too slow, even if they are already at the posted speed.

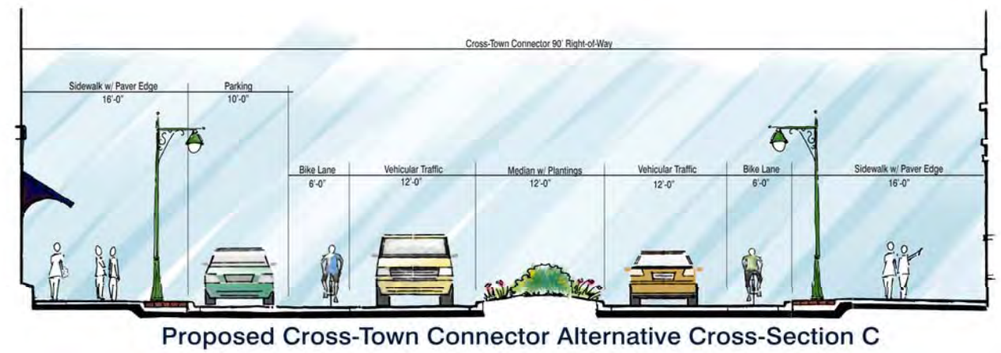
Figure 11: Proposed Typical Cross-Sections for the Cross-Town Connector



Proposed Cross-Town Connector Typical Cross-Section A



Proposed Cross-Town Connector Alternative Cross-Section B



Proposed Cross-Town Connector Alternative Cross-Section C

Widths of center turn lanes vary from as wide as 16 feet, to as narrow as 10 feet. The widest center turn lanes are generally two way left turn lanes on roadways that also include protected left turn lanes with medians. These are typically 12 feet wide turn lanes with a 4 feet wide painted or raised median. If a two way left turn lane is developed for mid-block accesses, the total 16 feet is available. However, two cars can almost pass side by side in 16 feet, and this width can lead to some strange left turn behavior, depending on conflicts. Turn lanes as narrow as 10 feet are found in dense urban areas where it was necessary to retrofit or re-stripe a street to provide a left turn lane for safety or capacity reasons.

For the cross town arterial, a center turn lane width of 12 feet is appropriate. The total lane width for the three lanes would be 34 feet (11 + 12 + 11). Existing curb to curb width of both 2nd Avenue S and 1st Avenue S is approximately 49 feet.

What should the remaining 15 feet (49 – 34) be used for? Parallel parking is a possibility, but probably for only one side of the street. Bike lanes are another possibility. Bike lanes are typically 5 to 7 feet wide. Inclusion of bike lanes would result in the cross town arterial being considered a “Complete Street.”

The movement toward Complete Streets is gaining momentum. It is likely that the next Transportation Reauthorization Bill will require Complete Streets considerations in all Federal Aid roadway projects. That means that all modes of travel must be considered in the design of a new or reconstructed roadway. Most urban road projects consider pedestrian traffic as well as vehicular traffic, but not necessarily bike or bus (transit) traffic.

Snyder & Associates, Inc. recommends designing the cross-town arterial as a Complete Street, to include bicycle and transit accommodation as well as pedestrian and vehicular accommodation. Parking is always in demand in a vibrant Downtown area, and on street parking is convenient. However, this facility is meant to move traffic to Downtown destinations and across the City. Parking should be available nearby, but not necessarily on the roadway. When reviewing the parking survey information outlined in Table 2 of this report, it shows the only demand for on-site parking on the Cross-Town Connector is the 800 block of 1st Avenue S. and east of S. 12th Street. To accommodate parking in the 800 block, we recommend evaluating the possibilities of reconfiguring the front steps of City Hall and providing parallel parking along the sough side of the street. Elsewhere along the Cross-Town Connector Roadway in the Downtown area, displaced on-street parking should be replaced with new surface lots, near the directly affected businesses if possible.

Figure 11 on the previous page illustrates the envisioned accommodation within the existing rights-of-way. Figure 10 shows where each cross-section is proposed.

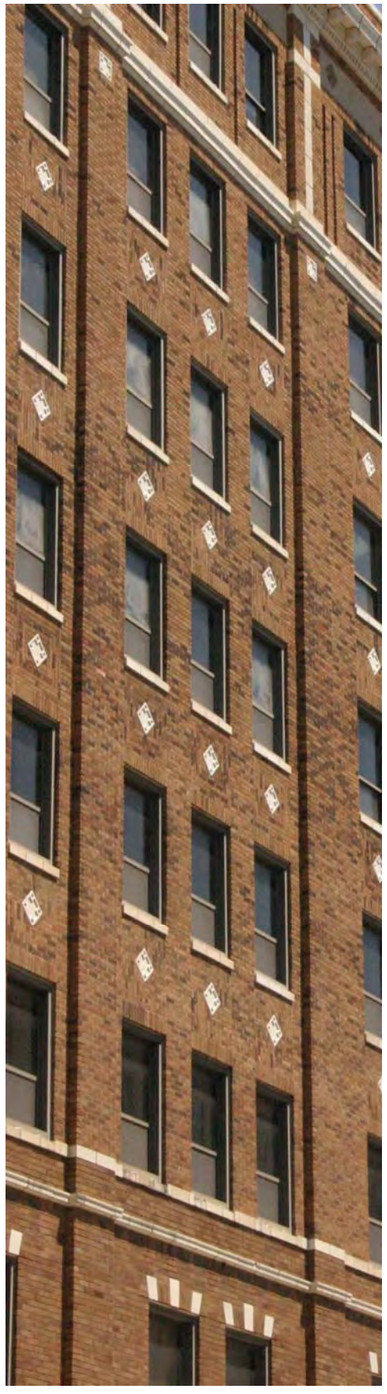
The typical sections show some of the potential for the streetscape of the Cross-town Connector, particularly Downtown. Since the connector will restore 1st Avenue S to two-way traffic, and this area is within the Downtown historical district, street lighting of a style appropriate to that period would be desirable.

Central Avenue Ribbon Pavers and other amenities.

Streetscape Inventory

In order to develop a specific design characteristic for the Downtown improvements site visits were conducted, past reports and construction documents for related projects were reviewed. Related projects reviewed included streetscape amenity improvements along 5th Avenue S., intersection improvements at 5th Ave./S. 8th Street and Hwy. 169/Kenyon Road and the Central Avenue corridor. Relating the concepts to these improvements and the unique character of Fort Dodge helps create a “sense of place” in the Downtown district. Some of the key items inventoried were the hardscape elements such as architecture, columns, brick pavers, benches, trash receptacles, fencing, sculpture and decorative lighting, along with softscape amenities such as plantings. Referencing characteristics from existing improvements and design guidelines, the concepts for the major corridors and specified areas outlined in the redevelopment areas were developed.

Central Avenue provides a 70’ typical cross-section with a 24’ wide two-way vehicular roadway bordered by on-street parallel parking on both sides. The cross-section also includes a typical 13’ pedestrian sidewalk on either side of the street. The sidewalk is enhanced



with a 4’ band of specialty pavers that helps enhance and define the pedestrian corridor. Improvements also included intersections and crosswalks enhanced with specialty pavers in a basic square pattern that can be repeated throughout the district. Enhanced mid-block pedestrian crossings are also included to provide mid-block crossing in areas anticipating high pedestrian traffic. Public seating areas are provided to allow users a place to rest or gather. Decorative lighting has been utilized along the corridor to help define the area, provide necessary lighting and scale. Street trees and plantings are provided where feasible to help provide shade, scale, define space and screen parking areas. Central Avenue side streets also have a 70’ typical cross-section with street tree plantings, 4’ specialty paver band, decorative lighting, two-way vehicular traffic and parallel parking on either side.

The other city intersection improvements and 5th Avenue S. improvements also utilize specialty pavers to enhance the area and define intersections and crosswalks. The use of limestone monument columns, decorative fencing, and planting beds at key intersections and in medians have also been included to help characterize and enhance the area. A grass parkway strip delineates the edge of the pedestrian corridor from the roadway instead of a band of specialty pavers as done along the Downtown Central Avenue corridor. Street trees and decorative lighting have also been included in these improvements.

Streetscape Opportunities

The redevelopment area provides opportunities to unify the Downtown district and the 5th Avenue S. improvements through the use of hardscape elements such as paving, lighting, and monuments. As well as landscaping that helps provide seasonal interest, shade and scale to the site.

The typical cross-section for the realignment is 70’ with a 36’ wide vehicular roadway with two-way traffic and a turning lane. Where turning lanes aren’t required a landscaped median shall be provided to create interest and scale. The cross-section also includes 5‘-6” bike lanes for both directions of travel and 11’-6” pedestrian sidewalks enhanced and defined with a 4’ paver edge, landscaping and decorative lighting.

The side streets within the area would provide a narrower roadway cross-section with two-way traffic and bike lanes on either side. The narrower roadway allows for a larger area for landscaping and overstory trees giving the side streets a more residential sense of scale.

The redevelopment concepts provide opportunities to include intersection enhancements that define key entry points and welcome users to the Downtown area. Site improvements associated with these enhancements should help unify the Downtown with other city streetscape improvements. Also opportunities exist within the redevelopment area to create civic spaces and a potential pedestrian mall at 6th and/or 7th street.

The concepts minimize the impacts of vehicular parking along the corridor by locating parking behind the primary building when feasible and anticipate using site elements such as landscaping and fencing to help screen parking locations. Shared Parking lots or adjacent parking lots with cross-access easements are shown to help reduce curb cuts and increase parking capacity.

The realignment area also offers the opportunity to limit new accesses through the curves, which is desirable for safety. The center left turn lane is then unnecessary and can be replaced with a raised median with plantings.

Redevelopment Area Alternatives

Market Analysis Summary

Several proactive steps have been taken to help identify the needs of the Fort Dodge Downtown district. In 2007, the Development Corporation of Fort Dodge and Webster County completed a "Targeted Industries Analysis" to better plan for the County's economic future. The City of Fort Dodge augmented this research with a community-wide market analysis as part of the Downtown Plan adopted in 2008.

The focus of Development Corporation's plan was on primary businesses that sell a majority of their goods or services to markets outside the immediate region. The report found that many companies are generally pleased with the community, tend to be successful and have a desire to grow their operations within the county. However, a tight labor force was identified as an area of concern, particularly with respect to recruiting for highly-skilled positions. Some of the difficulty in attracting such workers was attributed to quality of life issues. These issues were generally related to the overall appearance of Downtown Fort Dodge, the isolation of the county with respect to its distance to major metropolitan markets, and a lack of appealing social and cultural activities. The report also referenced concern about the quality and selection of lower-cost, entry, or apartment housing. The report indicates Fort Dodge will be better positioned to recruit new businesses and employees with improved housing choices near the central business district.

A community-wide market analysis was included as part of the subsequent Downtown Plan to determine Fort Dodge's regional economic importance. The city is the primary economic center for a multi-county region. As a result, Fort Dodge historically has had a high pull factor for general merchandise sales and this trend continues today. Fort Dodge has outstanding pulling power, with merchandise sales 88% higher than what would be expected based upon Webster County's population and income levels. This means Fort Dodge has captured the local market and is also capturing sales from surrounding markets, demonstrating the benefit the City has in being the largest population center in the region.

In 2008, the Downtown Plan surveyed existing occupancy rates of the Downtown buildings. Since over half of these buildings have more than one story and are of mixed-use, ground floor occupancy rates were evaluated separately from the occupancy rates for upper floors. The findings are summarized in Table 12 below.

Table 12: Vacancy Rates from the Downtown Plan – September, 2008

Classification	**% of the Building Occupied**	**Description**	**Ground Floor** (% of 434 Total Bldgs)	**Upper Floors** (% of 242 Total Bldgs)
Occupied	75%-100%	Reasonably vital and maintained	88.5%	83.5%
Somewhat occupied	25%-75%	Vacancies impact vitality	2.5%	4.5%
Sparsely occupied	5%-25%	Vacancies overwhelm vitality	0.5%	0.8%
Completely Unoccupied	0%	No sign of vitality or recent investment	8.5%	11.2%

Approximately 15% of the Downtown buildings had vacancies that were low enough to significantly impact the vitality of the structure. Of these, 8.5% of the buildings had ground floors that were completely unoccupied, indicating space was already available for additional retail/restaurant uses. Upper floors had an even higher vacancy rate; over 11% of the Downtown buildings had completely vacant upper floors available for residential and office uses. It is of note that some prominent buildings, such as the Warden Hotel and the Federal Building, were completely vacant. Such highly visible vacancies not only impact the vitality of the structure itself, but also the vigor of nearby structures. Additionally, they negatively impact the overall impression of Downtown Fort Dodge. Therefore, while the Downtown Plan indicates the Downtown district has a relatively high level of occupancy when compared to those of other cities with struggling Downtown areas, its findings clearly reflects Fort Dodge's need for investment in the Downtown area and their desire for redevelopment in and around the central business district in order to re-establish a vital Downtown.

The high vacancy rates of Downtown buildings contrast sharply with the retail pull of Fort Dodge, illustrating not only the opportunity available to restore vitality but also the impact of the East Retail Center on Downtown. This migration of retail businesses, coupled with the downward vacancy rates and city/county population trends, provides a strong rationale for a reduction in the size of the Downtown so that it is more proportional to the needs of the community and can experience better synergies in uses due to better proximity.

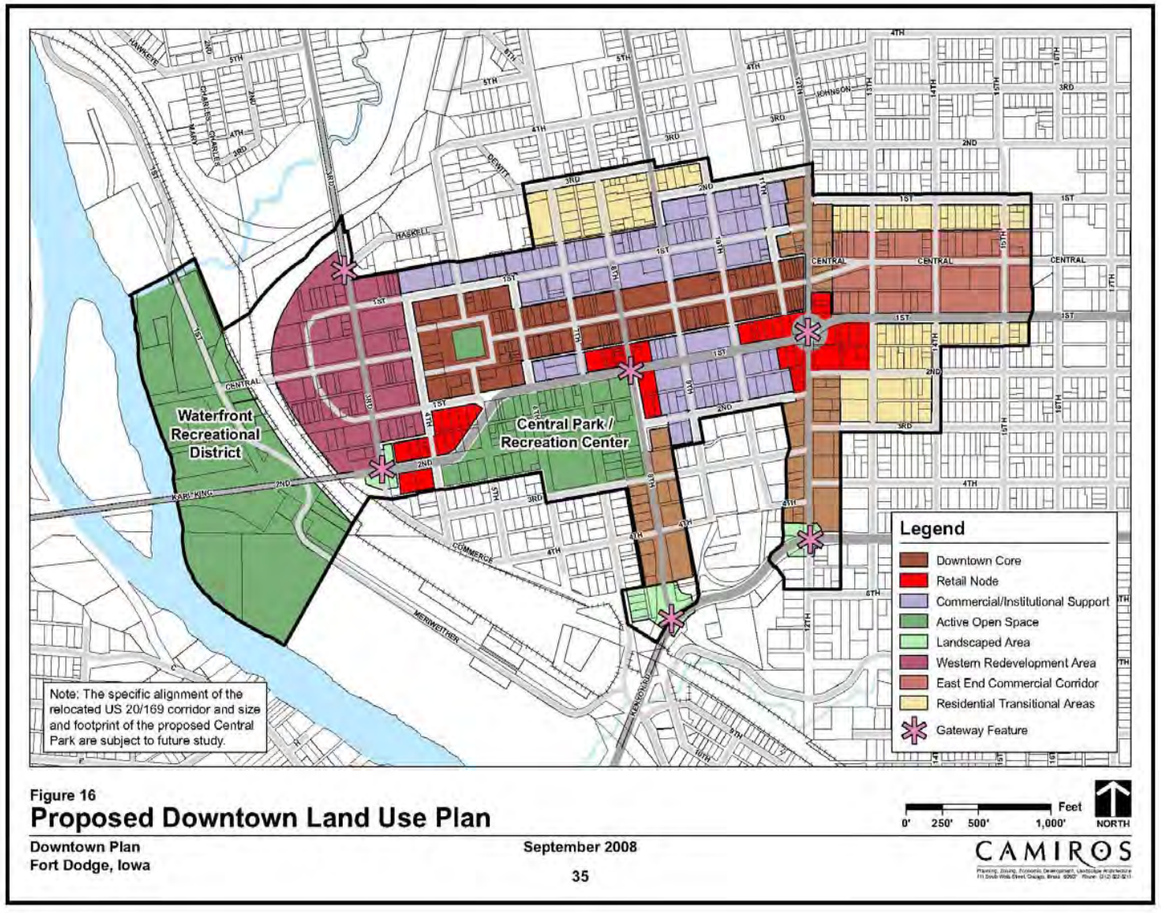
Projected Land Use

The City of Fort Dodge developed a vision statement for future of the Downtown district in conjunction with the Downtown Plan. According to the plan, Downtown is envisioned as "a place built on its historic heritage that takes advantage of geographic and natural assets to create an attractive and desirable place for people to live, work, shop and experience local culture through recreations and arts activities. It will be a place where people from around the region come to support local entrepreneurs by seeking out a unique blend of goods and services".

In support of this vision, one of the next steps undertaken by the City of Fort Dodge was to identify desirable land uses for the Downtown district that would establish the Downtown as a destination area for parks, recreation, entertainment, retail and housing. The Proposed Downtown Land Use Plan, as shown in Figure 12, reflects those objectives.

Following adoption of the Downtown Plan, concerns were expressed about the number and size of parks proposed for the Downtown district, particularly with respect to the diminished number of residential households in he neighborhood. With the aquatic center being sited outside of the Downtown district and

Figure 12: Proposed Downtown Land Use Plan – Downtown Plan – September, 2008



the recreational trail system being developed in the Waterfront Recreational District, the need for a second large park in the Downtown area was questioned.

As a result, the proposed land use related to the proposed Cross-town Connector was re-evaluated as part of this project. Specific proposed land uses were developed for the areas identified as having redevelopment opportunities along the realigned roadway corridor.

The following proposed land uses were developed in a manner consistent with the key strategies of the Downtown Plan. Specific proposed land uses in for areas having redevelopment opportunities include:

- *Housing*

A key strategy of the Downtown Plan was to establish a Downtown neighborhood made up of diverse housing types and necessary stores and services. Given the need to consolidate retail uses to the Downtown core to maintain it as a vital central business district, housing becomes a strong land use choice for redevelopment areas along the realigned roadway. Housing would be non-competitive land use and create a population mass to support other businesses. In addition, the housing stock currently available in the city is aged, with three-quarters of the homes nearly 40 years old and nearly two-thirds over fifty years old. This housing stock can be expected to show evidence of physical depreciation and obsolescence. Given the city's population trends, any new and/or upgraded housing will likely be in the form of replacement housing.

To help stem a continued population shift from the Downtown area to the edges of the city and to enhance revitalization efforts, contemporary replacement housing should be made available within the Downtown district. A variety of housing types and price ranges should be made available, including row houses and upgraded upper floor apartments. The new housing should be complementary to the existing single family housing in the adjoining neighborhood. This availability of contemporary housing could be a significant pull for the Downtown, as few opportunities exist elsewhere in the community at this time.

- *Offices*

According to the R.A. Smith market analysis, Webster County shows strength in professional and business services and in the information industry. Given vacancy rates for both ground floor and upper floors in the Downtown district, space is available in the Downtown core for office uses. In general, office uses should be directed to the central business district core, particularly in upper stories. However, opportunity exists within the redevelopment area for new, large office uses that would bring a significant number of employees and potential residents to the Downtown area.

- *Retail*

A contributing factor to the vacancy is the shift of retail businesses from the Downtown core to the East Retail

Area. To increase occupancy and create an active climate for Downtown retail business, retail uses should be consolidated to the Downtown core, generally along Central Avenue.

- *Restaurants*

According to the Downtown Plan, the retail area where Fort Dodge may have the greatest potential to increase sales is in restaurants. Input from public information meetings reinforced this finding, with the need for restaurants and coffee shops being mentioned frequently as a need in the Downtown area. While restaurants should logically be located near retail shopping and offices in the Downtown Core, there may also be opportunity for a limited number of restaurants to be located at retail nodes or outdoor plazas in the redevelopment areas.

- *Services*

Similar to retail uses, service uses should be considered for the Downtown core area. Some services uses, including personal services such as hairdressers and barber shops, are neighborhood commercial uses that closely identify with the adjacent residential uses. A limited number of such neighborhood services may be appropriately located in the redevelopment area

- *Entertainment*; *Community Center/Events Center*.

One of the key strategies of the Downtown Plan was to establish Downtown as a destination for parks, recreation, entertainment, retail and sports activities. With the Waterfront Recreation District, there does not appear to be a need for an additional Downtown park. However, a Community Center offering indoor recreation, an Events center offering entertainment opportunities, or a combination of these two uses would be appropriate in the redevelopment area. This is also consistent with the size of facilities presented in one of the layouts proposed in the Master Recreation Plan for a 145,000 sf facility.

Downtown businesses, housing and entertainment uses have a symbiotic relationship. With improved housing choices, Fort Dodge will be better positioned to recruit new businesses to the Downtown core. In turn, these businesses create a need for more restaurants and retail shops as well as expanded entertainment opportunities. Vibrant restaurants, retail and entertainment establishments are more likely to attract new residents to the area, including highly-skilled workers and college students that will increase the work force available to local businesses. A strong interrelationship between residents, businesses and related uses helps establish a sense of community. The Downtown area is poised to offer that.

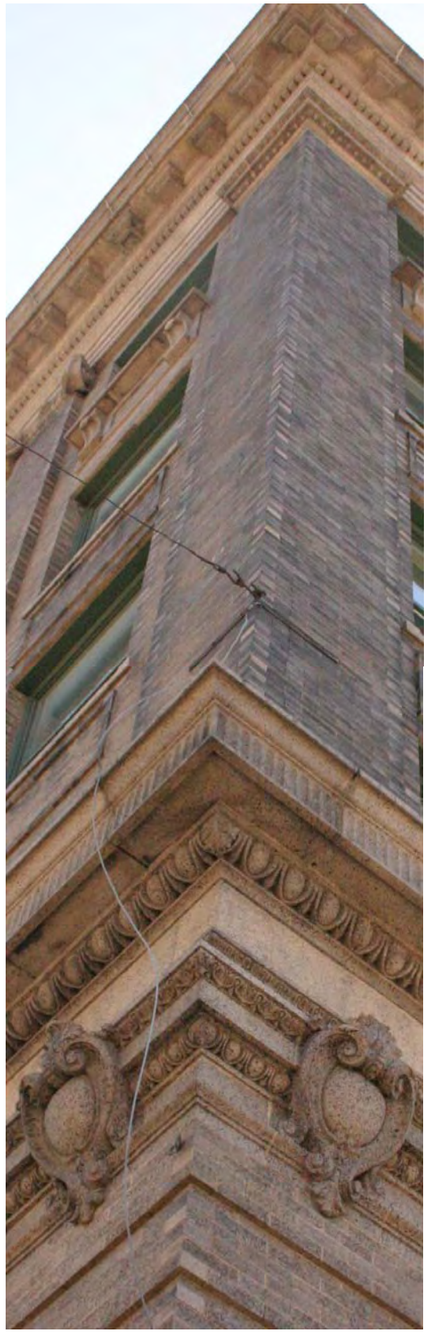
Redevelopment Area Concepts

While the Cross-town Connector provides a continuous east-west transportation corridor and increases traffic flow closer to Downtown, the physical realignment of the roadway offers the opportunity for redevelopment of properties along the new roadway corridor. Appropriate redevelopment will help fulfill the city's goal of condensing the Downtown district. Establishing suitable land uses for the redevelopment area, such as housing and restaurants rather than retail uses, are critical to support this goal. These same land uses also help achieve one of the key strategies of the Downtown Plan by establishing a Downtown neighborhood made up of diverse housing types and necessary services in close proximity to the retail stores along Central Avenue. Additional uses such as a community center or events center will help meet a second key strategy by establishing Downtown as a destination for recreation, entertainment and sports activities and is consistent with the recreation users recommended in the Downtown Plan. A community events center would compliment and support Downtown businesses rather than competing with existing or future land uses in the Central Business District (Central Avenue). Such a center would also create constant traffic to Downtown seven days a week and that traffic would occur during a variety of times of the day instead of just during business hours. This traffic generation would benefit Downtown businesses. Further, the Downtown Plan recommends synergies in land uses, a goal that could be achieved with a Downtown Community Events Center or other institutional uses such as a medical clinic.

As alternatives for the roadway realignment were developed through this study, redevelopment opportunities near the transportation corridor were analyzed for each of the five concepts. Properties were included with a potential redevelopment area based upon a number of issues. Remnant parcels from potential right-of-way acquisition due to the realignment were included within each redevelopment area. Nearby vacant parcels, soon-to-be vacant parcels and parcels owned by the City were then added to each redevelopment area. Parcels with depreciated structures in need of investment were then considered for redevelopment purposes. Also, parcels that may experience significant economic impact due to changes in traffic patterns were included. Finally, parcels having land uses that were not compatible with the goals established in the Downtown Plan were added to the redevelopment areas. These redevelopment areas are targeted to become a catalyst by instigating further excitement, redevelopment, and investment in Downtown Fort Dodge.

Each of the realignment concepts and associated redevelopment areas were analyzed with respect to the purpose and need for the project as well as the general impacts of the project. The preferred alignment for the Cross-town Connector encompasses two conceptual roadway alignments, Concept A and Concept B. Based on this preferred alignment, more detailed development concepts were prepared showing land use, side street connectivity, and the general locations for buildings, open space, pedestrian ways and parking.

Parking continues to be a desired commodity in the Downtown area. It is recommended that locations for a potential parking facility be identified with the redevelopment alternatives. When considering locations for a parking facility, it is important to contemplate existing and future land use in addition to researching parcels of land that may be available for redevelopment to a parking facility. Furthermore, the



parking facility should support the needs for businesses on Central Avenue and replace as much of the on-street parking that may be lost with developing the new Cross-town Connector. For existing parking needs, refer to Table 2 on page 4 of this report.

Concept A and Concept B are reasonably similar, with the roadway realignment for Concept B simply located approximately one block east of the realignment for Concept A. Since the criteria for establishing the redevelopment areas were the same for each concept, the overall footprint for each redevelopment area is reasonably similar, however the size of the individual tracts within the redevelopment area are different due to the right-of-way needs for the realigned street.

Each of these concepts is developed based on the Redevelopment Guidelines described in the Downtown Plan, further discussed in a subsequent section of this report.

- *Alignment Alternative A*

This realignment alternative includes three separate tracts of land adjacent to the Cross-town Connector for redevelopment purposes. One large approximately 11.5-acre tract is situated southeast of the connector and comprises most of the parcels located north of 3rd Avenue S., between S. 5th and S. 8th Streets. A small tract of land, approximately 1.5 acres in size, is located northwest of the corridor, encompassing parcels located south of 1st Ave S., between S. 4th and S. 6th Streets. A third tract of land, approximately 1.6 acres in size, is the west tract and includes parcels abutting the connector to the west of S. 5th Street.

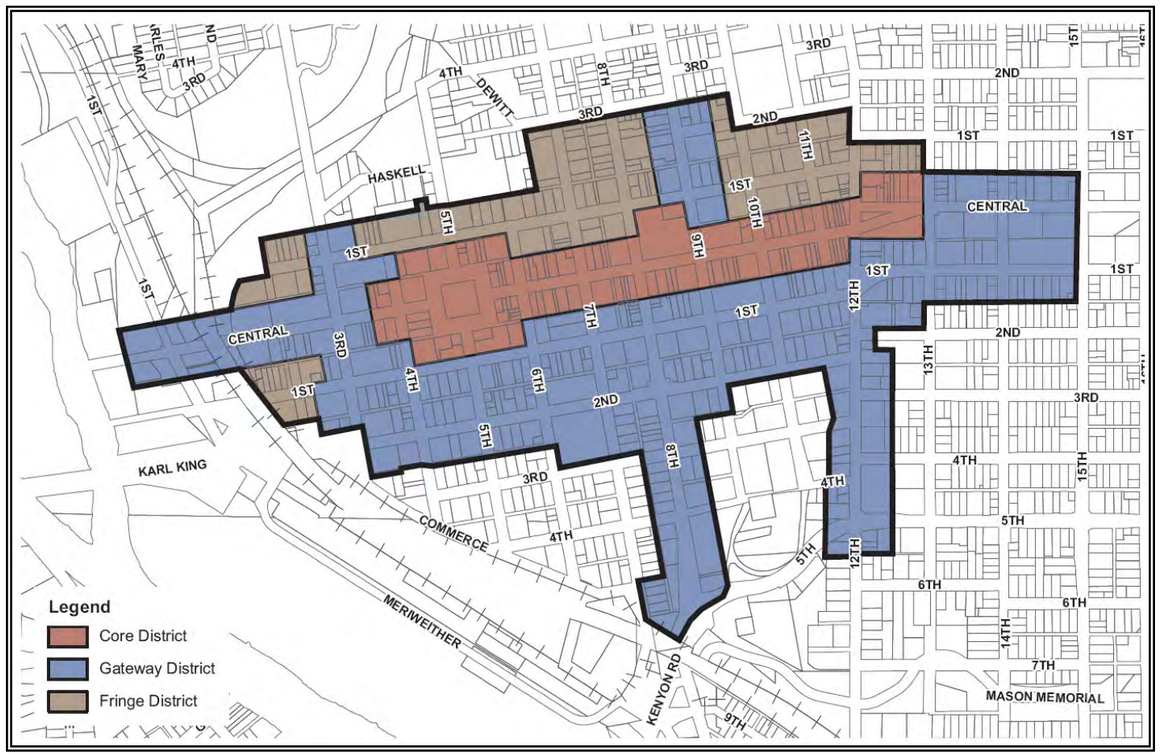
In order to create tracts of sufficient size to accommodate new land uses and to maintain reasonable intersections through the roadway realignment corridor, a portion of two existing streets will need to be absorbed into the southeast tract of the redevelopment area. 2nd Avenue S. will be vacated between S. 5th Street and S. 7th Street. S. 6th Street will be vacated between 1st Avenue S. and 3rd Avenue S. Some indirect continuation of these streets from the south and east will be maintained through the new parking lots.

- *Alignment Alternative B*

This alternative also includes three tracts of land adjacent to the Cross-town Connector for redevelopment purposes. However, since the roadway alignment is shifted to the east, the size of the redevelopment parcels has changed. The larger tract is still is situated south of the connector and includes most of the same parcels located north of 3rd Avenue S., between S. 5th and S. 8th Streets. However, this parcel is now approximately 9.5-acres in size. The northwestern tract is now larger, approximately 2.3 acres in size. The west tract of land is larger, approximately 2.7 acres in size, since it now incorporates a portion of the S. 4th Street right-of-way as well as the adjoining tract to the west.

As with Alternate A, a portion of two existing street will be absorbed into the southeast tract of the redevelopment area. These street vacations enable larger tracts of land to be created for accommodation of the new land uses as well as to maintain reasonable intersections through the roadway realignment corridor. 2nd Avenue S. will be vacated between S. 5th Street and S. 7th Street. S. 6th Street will be vacated between the Cross-town Connector and 3rd Avenue S. with this alternative, S. 4th Street will also be vacated through the west tract between 2nd Avenue S. and the alley to the south. Each of these streets will maintain indirect continuation to the extent possible through the new parking lots.

Figure 13: Downtown Districts – Downtown Design Guidelines – February, 2010



Redevelopment Guidelines

The historic nature of Downtown Fort Dodge, particularly the Downtown core, is a positive feature the community desires to preserve and enhance with future improvements. The Downtown Design Guidelines were adopted in February 22, 2010 to establish physical development guidelines to compliment this historic character of the area and provide form and style for future development projects.

The development guidelines vary, depending upon the type of street upon which the property fronts. The Downtown Districts are illustrated in Figure 13 and the Design Guidelines are summarized as follows:

- Core *District*
  - All Buildings – zero setbacks required
  - Building mass oriented toward street, upper stories may be stepped back
  - Building scale should be consistent with surrounding buildings
  - Architectural features on prominent corners (turrets, recessed entries, etc.)
  - Facades broken up with different materials, recesses, or vertical elements
  - In historic district, architectural style should reflect traditional design elements and materials
  - Encourage a variety of design while maintaining consistency of building elements
  - Storefronts to have appropriate level of transparency
  - Incorporate building details that reflect traditional design and pedestrian scale
  - Parking in the rear of building
  - 7’ landscaped buffer and decorative fence if parking fronts street
  - Cross easements to reduce drive openings
  - Loading zones and utilities not visible from primary frontage

- *Gateway* District
  - Corner Commercial Buildings – zero setbacks required
  - Mid-block Commercial Buildings – 10’ setback, maximum, if provided with landscaped yard
  - Residential Buildings – 10’ setback, minimum, and 15’ setback, maximum, with landscaped yard
  - Building mass oriented toward primary frontage, upper stories may be stepped back
  - Building scale should be consistent with surrounding buildings
  - Architectural features on prominent corners (turrets, recessed entries, etc.)
  - Facades broken up with different materials, recesses, or vertical elements
  - Architectural style should reflect general character of the surrounding area
  - Encourage a variety of design while maintaining consistency of building elements
  - Storefronts to have appropriate level of transparency
  - Incorporate building details that reflect traditional design and pedestrian scale
  - Parking in the rear of building
  - 7’ landscaped buffer and decorative fence if parking fronts street. If buffer is provided on primary frontage, provide decorative fence
  - Access restricted to locations without local streets or alleys
  - Cross easements to reduce drive openings
  - Loading zones and utilities not visible from primary frontage

- *Fringe* District
  - Commercial Buildings – 15’ setback, maximum, if provided with landscaped yard
  - Residential Buildings – 15’ setback, minimum and 20’ setback, maximum with landscaped yard
  - On buildings with primary or secondary frontage, local frontage may host the rear of building, loading area or parking
  - On buildings with no primary or secondary frontage, front building to local corridor and parking toward alley
  - Building mass oriented toward primary frontage, upper stories may be stepped back
  - Building scale should be consistent with surrounding buildings
  - Architectural features on prominent corners (turrets, recessed entries, etc.)
  - Facades broken up with different materials, recesses, or vertical elements
  - Architectural style should reflect general character of the surrounding area
  - Encourage a variety of design while maintaining consistency of building elements
  - Storefronts to have appropriate level of transparency
  - Incorporate building details that reflect traditional design and pedestrian scale
  - Locate parking away from higher priority frontage, toward local/alley where possible
  - 5’ landscaped buffer and decorative fence if parking fronts street. If buffer is provided on primary & secondary frontage, provide decorative fence
  - Curb cuts and parking lot visibility should be minimized on higher priority frontage and focus on local or alley frontages
  - Provide a raised curb along alley frontage

The redevelopment area is highly visible, due both to its size and to its location. It will be particularly important to incorporate these design guidelines into the development of the redevelopment area as well as the streetscape elements. The redevelopment area will set the tone for future projects and will demonstrate how the design guidelines should be implemented in the physical improvements to the Downtown district.

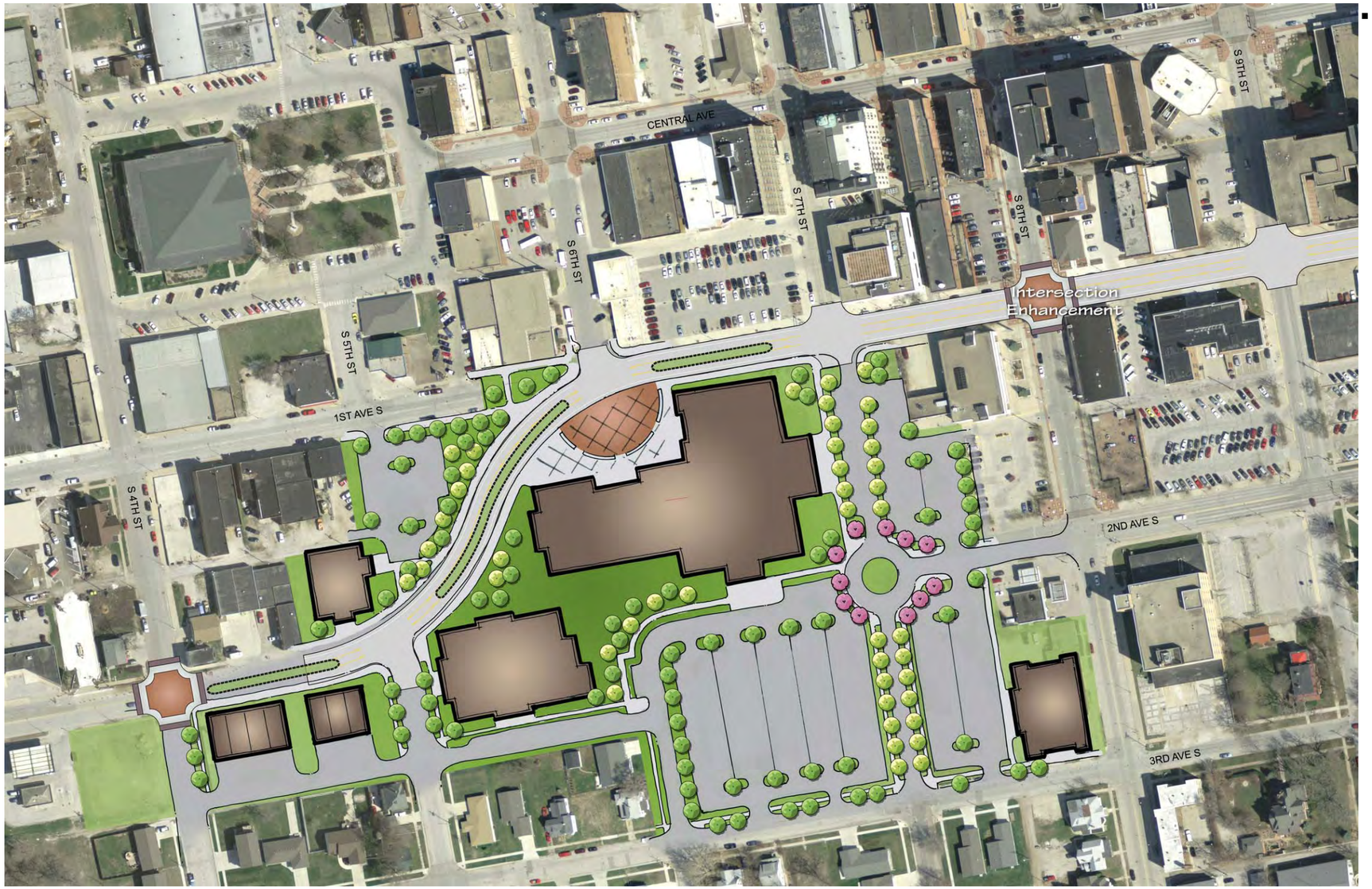


Figure 14 **Cross-Town Connector Improvements Project**
Alternative Alignment A - Concept 1

- *Alternate A - Concept 1 (Figure 14).* As depicted in the sketch, Concept 1 revolves around a large new building on the southeast tract. The building footprint is approximately 75,000 square feet in size, so a 2-story structure would offer approximately 150,000 square feet of space. This building would be suitable for an institutional-type use like a Community Center, Events Center, church, etc. Alternatively, it may be suitable for a new office building should a large employer become interested in locating in the Downtown area. A large outdoor plaza (see Figure 22) becomes a focal point near the Cross-town Connector at S. 6th Street. This plaza may contain elements such as brick pavers, colored/stamped concrete, public art, water features, large planters, decorative seating, and ambience lighting. An enhanced pedestrian way along S. 6th Street (see Figure 21) provides connectivity between the new building and square as well as to Central Avenue. Two smaller buildings on the southeast tract could accommodate multi-family dwellings such as a 2-3 story condominium complex. The smaller building fronting on S. 8th Street could also contain a business use compatible with the higher traffic volumes from the south. A large landscaped parking area is centrally located providing sufficient parking stalls to serve all three buildings. The northwest tract includes a 10,000 square foot building that would be appropriate for a commercial business similar in nature to the surrounding businesses. The associated parking is screened from the realigned roadway with plant material. The triangular area at the northeast corner of this tract provides additional open space for landscaping. The west tract lends itself to row house residences having access from the alley to the rear. The parking lots on all tracts were conceptually sized with a total of 500 stalls provided for redevelopment area.

- *Alternate A - Concept 2 (Figure 15).* This concept illustrates primarily residential uses in the redevelopment area. Buildings fronting the south side of the realigned roadway between S. 4th Street and S. 7th Street would be developed as row houses with garage access in the rear. The large building in the center of the southeast tract would be a 2-3 story condominium complex providing higher density dwellings. The footprint of this building is approximately 25,000 square feet in size, so a 3-story structure would allow for increased residential density in the Downtown area. An outdoor plaza (see Figure 22) offers opportunity for green space near the Cross-town Connector at S. 6th Street. An enhanced pedestrian way along 6th Street (see Figure 21) provides connectivity between the multi-family dwellings and the library and square. The 4 buildings on the south side of this tract are intended to be separate condominium/townhome buildings which transition to the single-family residential to the south. The smaller building fronting on S. 8th Street would again be intended as a business desiring higher traffic volumes and visual presence. The landscaped parking lot is situated near the center of the tract. The northwest tract includes a 10,000 square foot building that would be appropriate for a business compatible to others in the area. The associated parking lot is screened from the Cross-town Connector with plantings. The triangular area at the northeast corner of this tract provides additional open space for landscaping. The common parking areas shown for the redevelopment area total 300 stalls. The row houses and single lot townhomes have parking at the individual units.

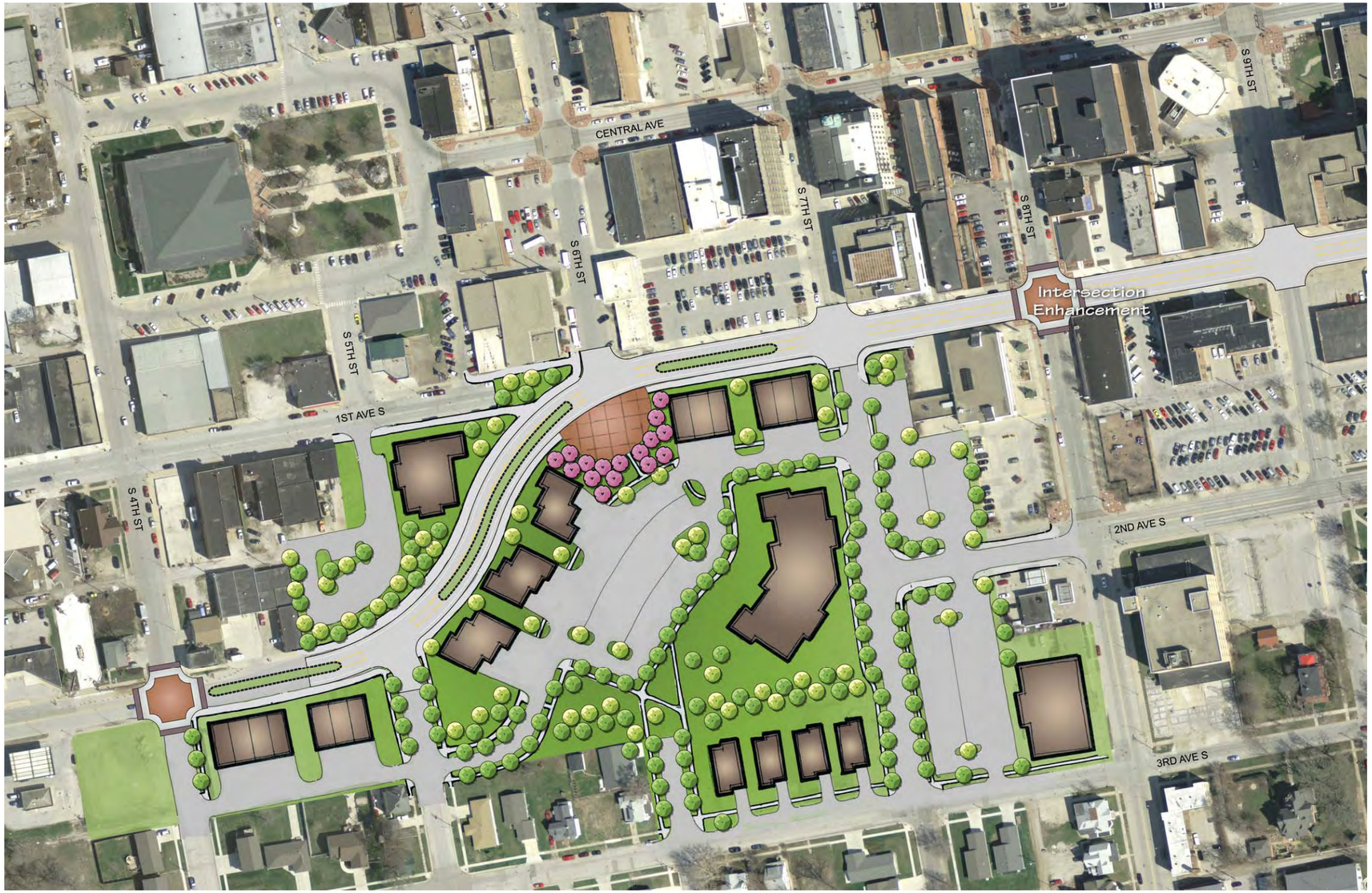


Figure 15 **Cross-Town Connector Improvements Project**
Alternative Alignment A - Concept 2

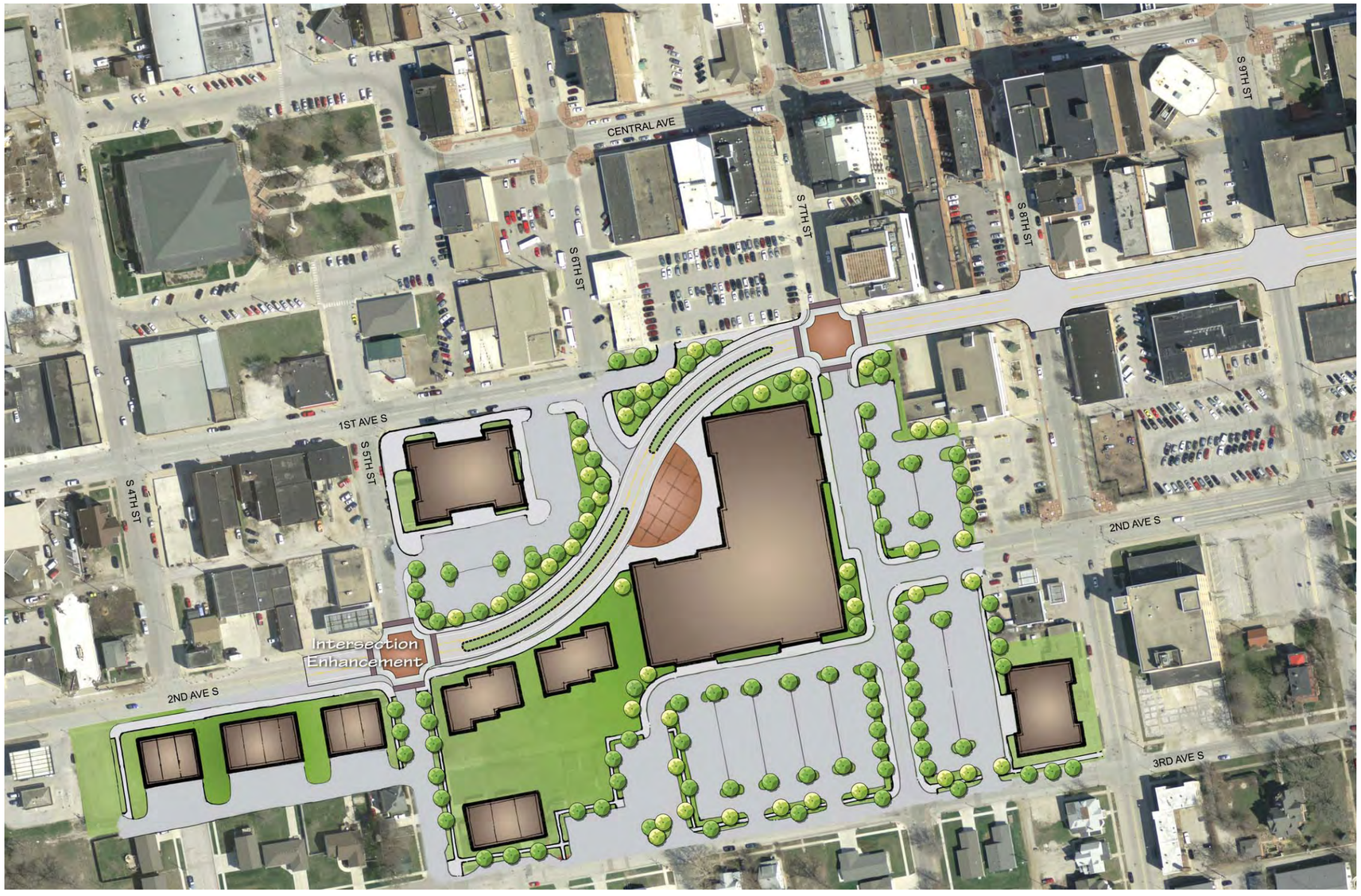


Figure 16 **Cross-Town Connector Improvements Project**
Alternative Alignment B - Concept 1

- *Alternate B - Concept 1 (Figure 16).* This redevelopment concept centers on a large new building facing the realigned roadway on the southeast tract. The building footprint is about 75,000 square feet in size, so a 2-story structure would have about 150,000 square feet of space. This building would be suitable for an institutional-type use such as a Community Center, Events Center, church, etc. Alternatively, it may be suitable for a new office building should a large employer become interested in locating in the Downtown area. S. 6th Street will extend down to the Cross-town Connector and a civic space/sculpture feature (see Figure 22) would be centered on the termination of that street. An enhanced pedestrian way along S. 6th Street (see Figure 21) connects the new building to the library and square as well as Central Avenue. Parking is situated on the south and east sides of the large building. The six smaller buildings located west of the large building would be row houses. The building fronting on S. 8th Street is again proposed to be a business desiring higher traffic volumes and ease of access. The northwest tract includes a larger 16,000 square foot building that would be appropriate for a business. The parking lot for this building would be screened from the realigned roadway and additional landscaping would be provided in the triangular area east of this building. The parking lots for the redevelopment area total 400 stalls with the row houses typically providing parking at their individual units.

- *Alternate B - Concept 2 (Figure 17).* In this concept, the redevelopment is focused primarily on residential uses. Beginning just west of S. 4th Street, row houses are proposed to front on the Cross-town Connector. These homes would have garages and access at the rear of the buildings. The remainder of the southeast tract shows three large buildings encircling a round-about. These structures are intended to be multi-level residential buildings providing higher density housing. Together, these 3 buildings total 45,000 square feet of area per floor. The "L" shaped building is proposed as a garage structure for these dwellings. There would be additional parking in the parking lots shown and on perimeter streets with the redevelopment area totaling 150 stalls. Landscape buffering will be important for screening of parking areas from the residences. This design also allows for open lawn areas and an opportunity to provide "green" storm water management practices on site. An enhanced pedestrian way along S. 6th Street (see Figure 21) provides connectivity between the multi-family dwellings and the library and square. The northwest tract includes a 15,000 square foot building that would be appropriate for business uses similar to the surrounding businesses. The associated parking lot would include landscape screening for the realigned roadway.

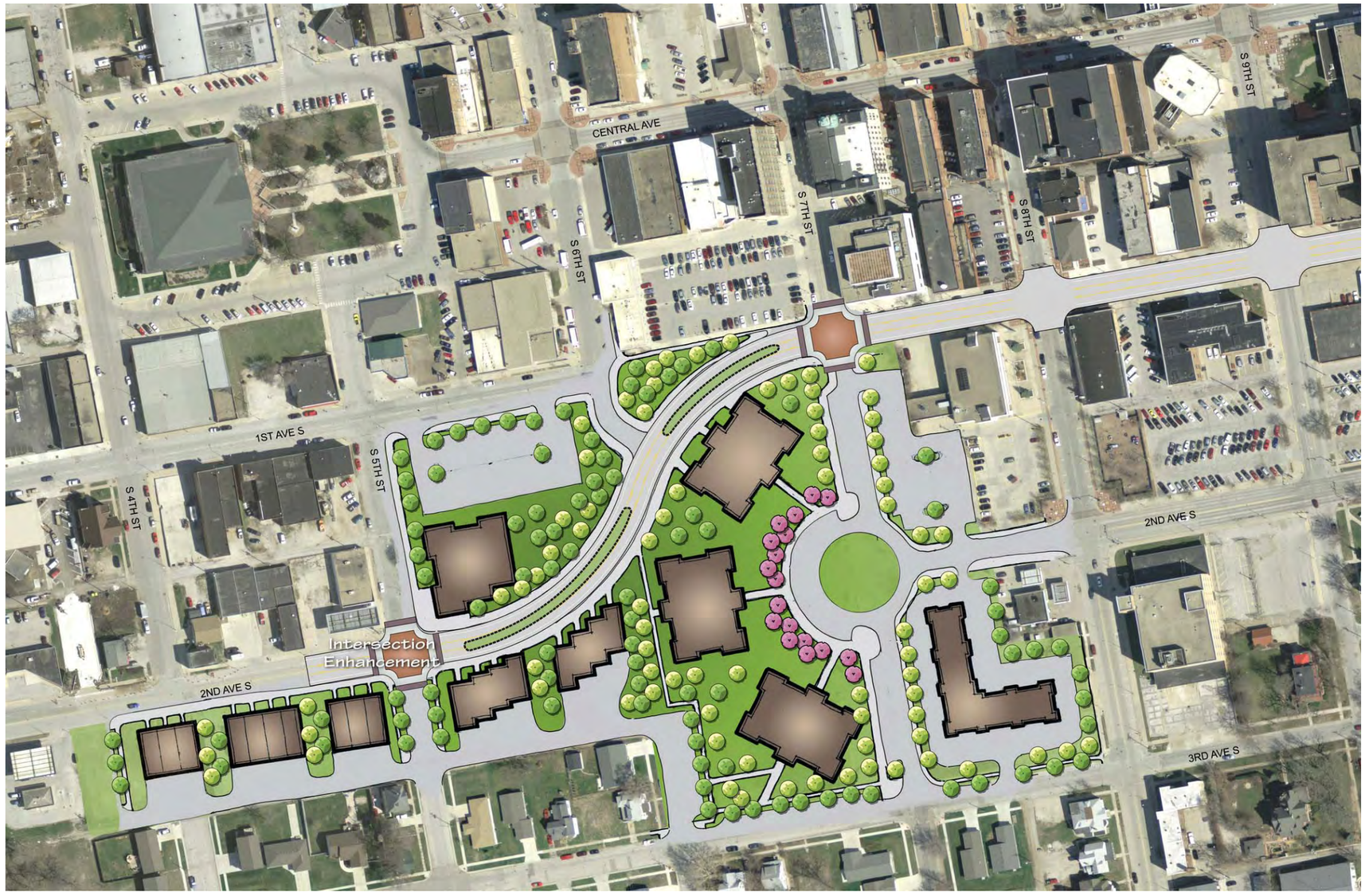


Figure 17 **Cross-Town Connector Improvements Project**
Alternative Alignment B - Concept 2

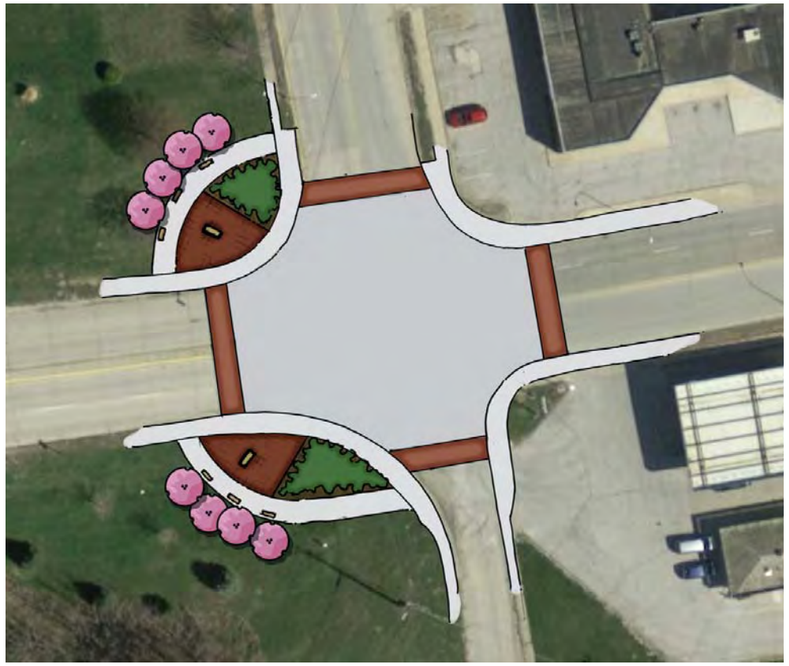


Figure 18 Cross-Town Connector Improvements Project
Cross-Town Connector & S. 3rd St. Intersection Improvement Concept

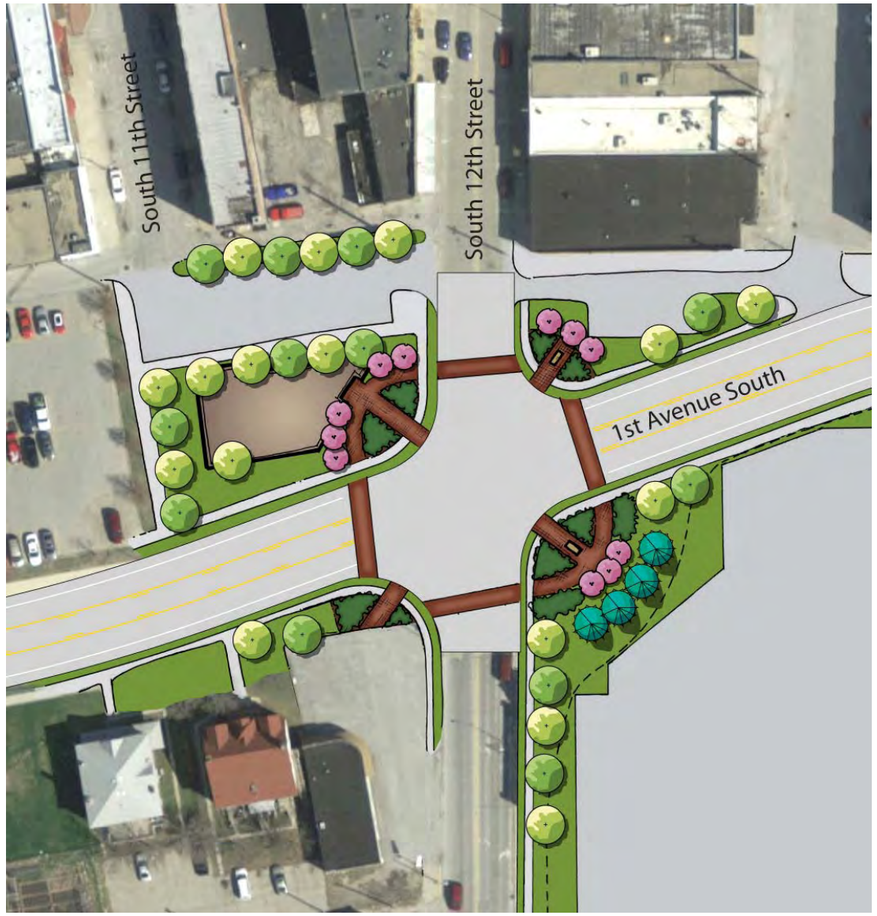


Figure 19 Cross-Town Connector Improvements Project
Cross-Town Connector & S. 12th Street Intersection Redevelopment Concept

- *Cross-Town Connector/S. 3rd Street Intersection Concept (Figure 18).* This concept represents the proposed enhancements to the intersection that are intended to help motorists and pedestrians identify that they are entering the Downtown area. Decorative crosswalks along with landscape amenities in the west two corners will serve as a "gateway" to the Downtown from the west. As motorists travel east over Karl King Bridge they will quickly see a large monolith structure on each side of the road just west of the intersection at S. 3rd Street. Additional features of the "gateway" intersection are shown in Figure 20.

- *Cross-Town Connector/S. 12th Street Intersection Concept (Figure 19).* This concept illustrates a proposed site redevelopment concept for the northwest corner of the new Cross-Town Connector and S. 12th Street intersection. This concept utilizes the on-site parking criteria for a commercial / restaurant use at 4 parking spaces per 1,000 sf with the first 1,000 sf being exempt. This concept also includes a 4,000 sf building, which maximizes the use of the street frontage. Vehicle parking is located on the north side of the building with access from the alley and S. 12th Street. S. 11th Street is shown as being disconnected from the Cross-Town Connector to help with intersection capacity, operations, and safety. Landscaping for the parcel can be designed to tie into the streetscape amenities along the Cross-Town Connector Roadway. Additionally, a new parking lot is proposed in the northeast corner of the intersection to replace the lost on -street parking in that area. Decorative crosswalks are proposed at this intersection along with large monolith structures and other enhancements to serve as a "gateway" intersection into the Downtown area. Refer to Figure 20 for additional details for the "gateway" features.

- *S. 3rd Street and S. 12th Street Gateway Features Concept (Figure 20).* This concept is intended to draw the attention of motorists and pedestrians entering and exiting the Downtown area. The intersections at S. 3rd Street and S. 12th Street will serve as "gateways" to the Downtown on the Cross-Town Connector. These two intersections will be emphasized by two large monolith structures that will be cut of the same stone material as the smaller entryway features at US 169 and Business US 20. The structures are proposed to be much larger and potentially allow for identification signage at the top. The monolith would be set on a decorative paving area in each of the two outside corners of the two intersections. Additional decorative plantings and trees are proposed to soften the area by providing shade for the proposed seating areas around the perimeter. The materials used would be similar to those proposed for the Downtown Plaza.

- *S. 6th Street Pedestrian Corridor Concept (Figure 21).* This concept utilizes ornamental street trees and pedestrian walkways to create a pedestrian corridor connecting the plaza to the Downtown Business District. The plantings and landscape elements will tie into those being proposed along the Cross-Town Connector, the Downtown Plaza, and the Gateway Intersections.

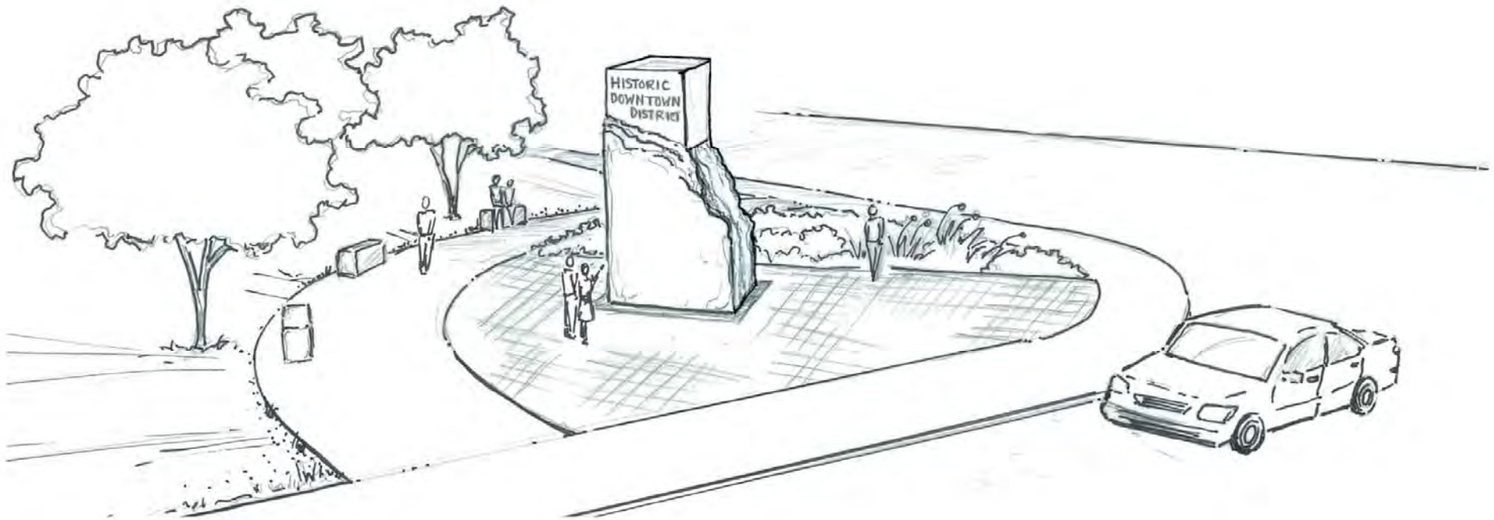


Figure 20 **Cross-Town Connector Improvements Project**
S. 3rd Street and S. 12th Street G Feature Elevation Concept

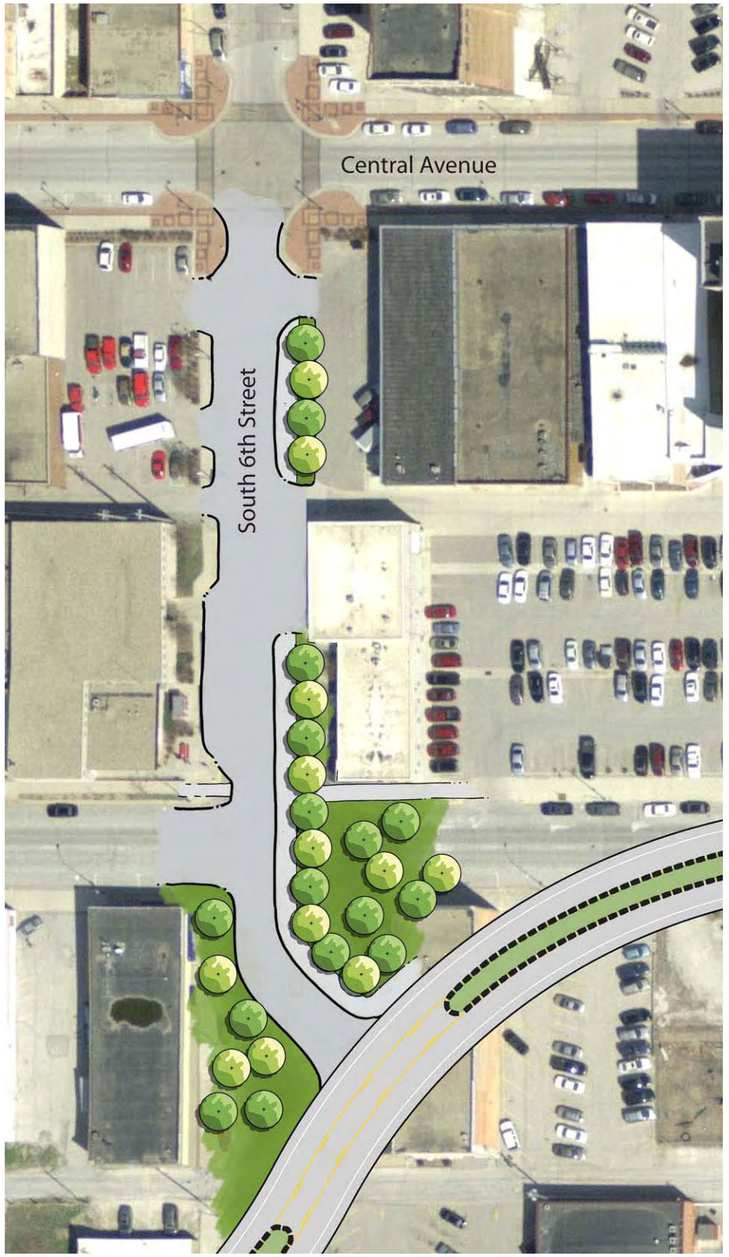


Figure 21 Cross-Town Connector Improvements Project
S. 6th Street Pedestrian Way Concpet

Figure 22

Cross-Town Connector Improvements Project
Downtown Plaza Concept

Figure 23: Downtown Historic District

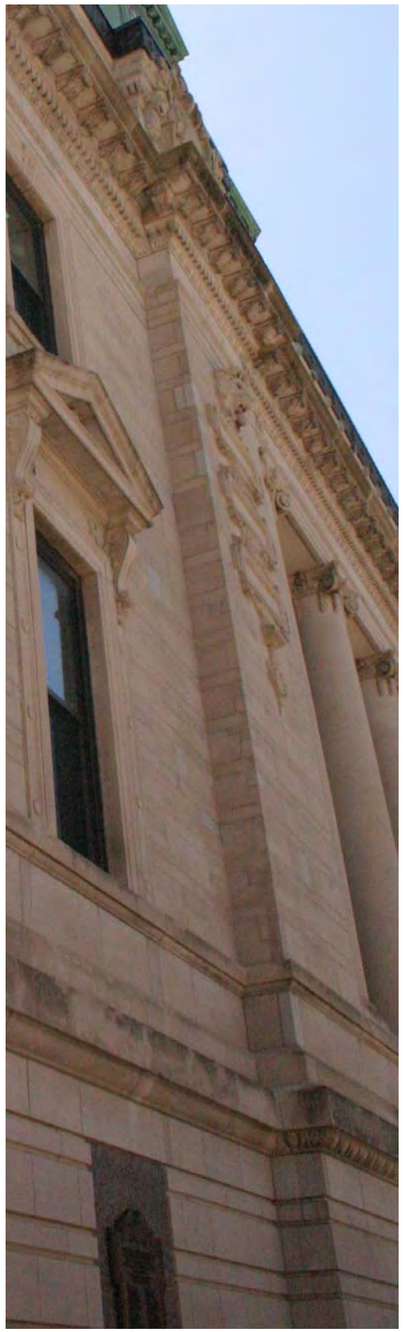
Impacts

Roadway Right of Way

The existing rights of way on 2nd Avenue S and 1st Avenue S are 70 feet wide. On 1st Avenue S, this width represents the distance between building facades. A 70 feet wide right of way is appropriate for the cross town arterial. However, through the realignment curves, a wider right of way may be desirable to include space for streetscape amenities, or other features to give the area a sense of place as a landmark or destination. The right of way for the this segment should be set as a balance between these elements that should be in the public right of way, versus the needs of the adjacent land use in the redevelopment area.

Downtown Historic District (See Figure 23)

The City of Fort Dodge has a unique Downtown district that defines the history of the city, and the city's importance in the region. An historic district has been identified, and is in the process of being entered into the National Register of Historic Places.



The Downtown historical district is featured with several multi story buildings built during the time period from 1900 to 1930. Existing buildings within the district are identified in one of four ways:

1. On the National Register of Historic Places
2. Individually Eligible for the National Register
3. As a Contributing Resource to the Historic District
4. Not a contributing resource (modern)

There are three structures within the district that are currently on the National Register of Historic Places. These include the Beh Building at 629 Central Avenue, the Webster County Courthouse at 701 Central Avenue, and the Wahkonsa Hotel at 927 Central Avenue.

Structures that are considered Individually Eligible have either architectural or historical significance of sufficient quality to warrant eligibility for the National Register all by themselves.

Contributing Resource structures are buildings that were in existence during the significant historical period from 1900 to 1930 that contribute to the integrity of the district boundary. These structures are generally not eligible on their own due to common construction, or modern alterations.

The Preferred Alternative or Design Corridor encompasses one Contributing Resource structure. This building currently houses part of the Carpet World business at 529 1st Avenue S.

This building is considered a contributing resource to the Fort Dodge Downtown Historic District in association with the history of Fort Dodge commerce, specifically in demonstrating the transition from the early transportation/agricultural related businesses to the later automobile support merchants.

This structure can potentially be avoided by the design of the roadway. However, the building may be in conflict with potential redevelopment efforts. The potential taking of this structure must be addressed in any NEPA process (as a potential 4(f) resource) toward the further development of the project.

Utilities

Since the proposed cross town connector will generally use existing right of way, and curb to curb distances will be similar, the majority of utility impacts outside the realignment area will only include needed replacements of outdated or substandard utilities. This will likely include replacement of the storm sewer system, and potentially replacement of the sanitary sewer, water main, and associated service connections.

The design of the storm sewer will require analysis of downstream receiving systems, to understand capacity limitations and the associated design capacity of the replacement system. If the system is too deficient, more extensive replacement of the storm sewer outside of the roadway reconstruction may be required.

The realignment area will encounter significant existing utilities as it crosses the alley between 2nd Avenue S and 1st Avenue S. Private utilities in this location include:

- MidAmerican Energy three phase overhead electric distribution lines
- MidAmerican Energy 2" gas line
- Mediacom TV cable
- Frontier Communications 50-100 pair telephone

Conflicts with these utilities are likely as the alignment crosses. It would be desirable from an aesthetics standpoint to relocate the overhead crossing underground. In addition, planning for opportunities in the redevelopment area may require the addition of new utility lines in this particular utility corridor, particularly since the service needs may change, and new building construction my require relocations and added services.

Other private utility lines may be encountered at intersections as 1st Avenue S. is reconstructed. These may include:

- MidAmerican Energy underground three phase conductor midblock between 7th and 8th Street
- MidAmerican Energy 3" gas line at 7th Street
- Frontier Communication buried 600 and 2100 pair telephone cables and fiber optic line at 7th Street

Early coordination should take place with the affected utilities to understand any relocation needs and the schedule requirements.

Properties

The preferred roadway realignment for the proposed Cross-town Connector will have different impacts on different properties within the transportation corridor, the redevelopment areas, and adjoining neighborhoods. Some of the most significant impacts include:

- *Right-of-way Acquisition*

Based on an established final alignment for the Cross-town Connector, certain properties will need to be acquired by the City of Fort Dodge for right-of-way purposes. It is anticipated the entire parcel will be acquired by fee title and the remnant parcel will be consolidated into the redevelopment area. Such right-of-way acquisitions may also include relocation services for the current property owner or tenant. All right-of-way acquisition will need to be in conformance to NEPA guidelines.

- *Parcel Acquisition for Redevelopment Areas*

Once the boundary for the redevelopment area has been determined, additional properties will need to be acquired by the City of Fort Dodge to consolidate the appropriate parcels into larger, developable tracts of land. It is anticipated the entire parcel could be acquired by fee title by the City of Fort Dodge, however property acquisition could be negotiated with a developer as part of a development partnership.

- *Relocation / Mitigation*

Nearly all of the properties directly impacted by the roadway realignment project are located within either the proposed right-of-way corridor or one of the potential redevelopment areas. Additional properties that are more indirectly affected by the realignment due to land use and traffic pattern changes were included in the redevelopment area. However, given the size of the redevelopment parcels and the current wide variety of uses south of Central Avenue, the redevelopment area has the opportunity to become a good transitional use between residential uses to the south and commercial uses to the north.

Reduced traffic on 2nd Avenue S. may also be a concern to some property owners. The most significant decrease in traffic on that street will be west of S. 8th Street/IA 926, which is located entirely within the redevelopment area. However, there will also be a reduction in traffic on 2nd Avenue S. between S. 8th Street and S. 12th Street. Businesses such as Jim's Service Station may see reduced traffic volume, however this is unlikely to be significant as the north/south traffic volumes on IA 926 (S. 8th Street) should remain relatively the same as they are today.

Changes to access, through limitations or restrictions, does not appear to present a major problem for this project. Since 1st Avenue S. will continue west from the Cross-town Connector at S. 7th Street, there should be little change to access in this area. Other properties having changes to their access are included in the redevelopment areas.

In summary, many of the properties shown as being impacted as a result of the roadway realignment or the redevelopment area are retail based and are primarily located west of S. 8th Street. More specific investigation may be needed, additional mitigation options may be considered, and relocation of those businesses will likely be needed to avoid depreciating business values.

Each of the property owners located within the impact areas was contacted. Meetings were held with a majority of those contacted. Of those property owners that were met with, every one expressed an interest in relocating their business if a total acquisition was necessary. Most stated they would prefer to stay in the Downtown area, but they would entertain other suitable locations in the City.

- *Redevelopment*

One of the objectives of the Cross-town Connector project is that the redevelopment area project will expand potential redevelopment opportunities beyond the original redevelopment area. Certain property owners may wish to remain in their existing premises, but upgrade those premises to be more in-keeping with the historic character or the Downtown Design Guidelines. Improvements to such properties may include face-lifts on facades, creation of new facades facing the connector, historical preservation/renovation, or interior remodeling to provide upgraded, contemporary spaces within the Downtown buildings. These improvements are private, rather than public, improvements. In order to encourage such private investment, the City may wish to work closely with property owners to motivate them in this endeavor.

In order to implement the City's vision for Downtown Fort Dodge, the City will seek to utilize means outside of general fund financing. The City will utilize existing incentive programs and likely need to develop new ones, to reduce risk for potential developers and accomplish City redevelopment goals. Urban renewal and tax increment financing are the best opportunities available to leverage economic development resources into a community. The City currently has two urban renewal areas allowing it to spend tax increment finance (TIF) revenues and sell enterprise zone credits. Promoting redevelopment in the downtown as well as projects that will have a positive impact on the downtown are key goals of TIF. While no formal programs have been established, funds have been used to for acquisition and clean up of abandoned and obsolete properties, infrastructure replacement and other redevelopment-related activities. A façade improvement program was recently established and is funded by TIF.

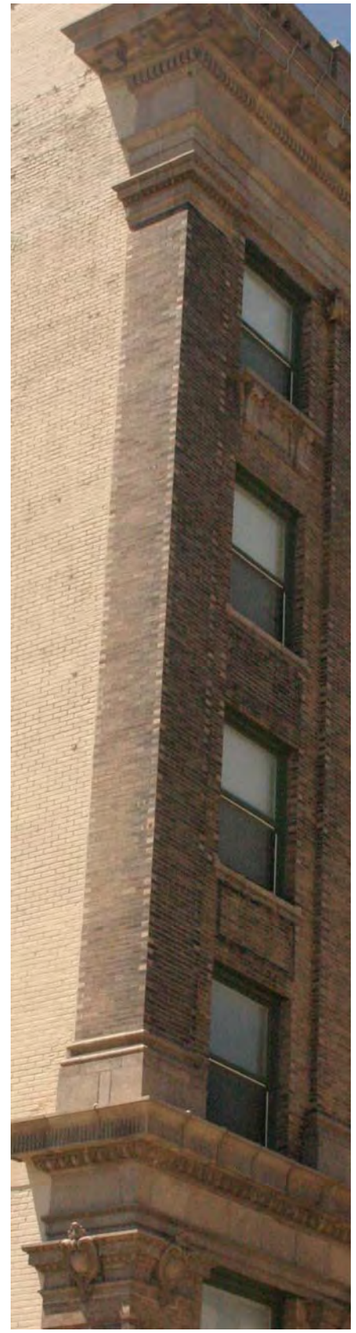


Table 13: Realignment Neighboring Parcel Impacts - Alternative A

Cross-town Connector Improvements Project
Potential Impacts to Neighboring Parcels
Based on Redevelopment Concepts for Alignment Alternate A

Property Owner	General Description	Historical Significance Identified	Property Acquisition		Potential Relocation and/or Redevelopment			
			Right-of-Way Acquisition	Redevelopment Opportunities	Land Use Changes	Reduced Traffic	Access Limitations	Other Issues
South side of 2nd Ave. S								
Moeller	Downtown Sinclair							
City of FD	-			⦸				
Claude	Enhancements			●	●			
Zakeer	Zakeer's			●				●
City of FD	-			⦸				
Lucero	B & B Tires			●	●		●	
Hall Properties	Old Fareway			●	●	●	●	●
City of FD	city parking lot			⦸				
Gernhart	single family			●				●
Kirby	single family			●				●
Kirby	single family			●				●
Kirby	single family			●				●
Moeller	Jim's Service							
FDG Realty	Iowa Homecare			●	●			
FDG Realty	Iowa Homecare			●	●			
Gawtry	Office			●	●			
Mitchell	Dental Lab			●	●			
Jim's Service	Jim's Service lot			●	●			
Frye Property Mgt	Federal Bldg							●
North side of 2nd Ave. S								
Simmons	Custom Woodwrkg							
Sawyer	Sawyer Meats							
City of FD	-			⦸				
Carlson	multi-family		●		●		●	●
Marvin	M & J's Vacuum		●		●			
Development Corp	-		●					
Bennett	-		●		●			
Bennett	Bennett Radiator		●		●			
Neeson	Automotive		●		●			
Peterson	-			●	●			
Peterson	prior gas station			●	●			
P&J Holdings	Carpet World office			●			●	●
Harvest Baptist	Baptist Church			●	●			
Anderson	Phillips 66			●	●	●		
Anderson	fenced storage area			●	●			
Webster County	county parking lot							
South side of 1st Ave. S								
Brick Enterprises	Rojohn Homes	CR						●
Brick Enterprises	Rojohn Homes							●
Dencklau	Reader-Fleming/ Wooten Radiator	CR		●	●		●	
City of FD	old Gibson parcels			●	●		●	
City of FD	Multiple parcels	CR		⦸				
P&J Holdings	Carpet World		●		●			●
P&J Holdings	Flooring America			●	●			●
Harvest Baptist	Church Annex			●	●			
Webster County	county parking lot			●	●			
Harvest Baptist	parking lot			●	●			
Webster County	Bank of America			●	●			

⦸ denotes City-owned property

The downtown is within the City's recently updated Enterprise Zone. Properties are eligible for investment tax credits. The tax reduction is based on the amount of the investment. A qualified commercial or industrial business may receive a tax reduction equal to 10% of the investment, provided a minimum investment of $500,000 is made. Applications are available at the City.

The Downtown area is within the City's Urban Revitalization Plan. Improvements to qualified residential, commercial and industrial properties are eligible for tax abatement.

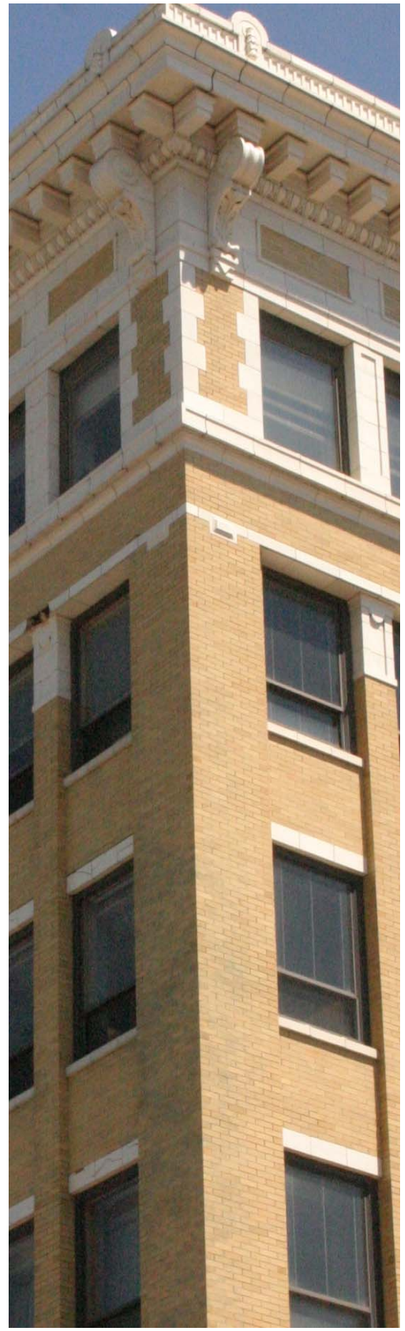
Downtown Fort Dodge has a pending nomination for placement on the National Register of Historic Places. Having a district in place provides quicker access to several economic incentives. For application and detailed information, interested parties should visit the State Historical Society of Iowa's website. Currently, a 20% tax credit for qualified rehabilitation costs is available as a credit against federal income taxes on income-producing historic properties. State income tax credit up to 25% of qualified rehabilitation costs is available as a credit against the owner(s) state income taxes.

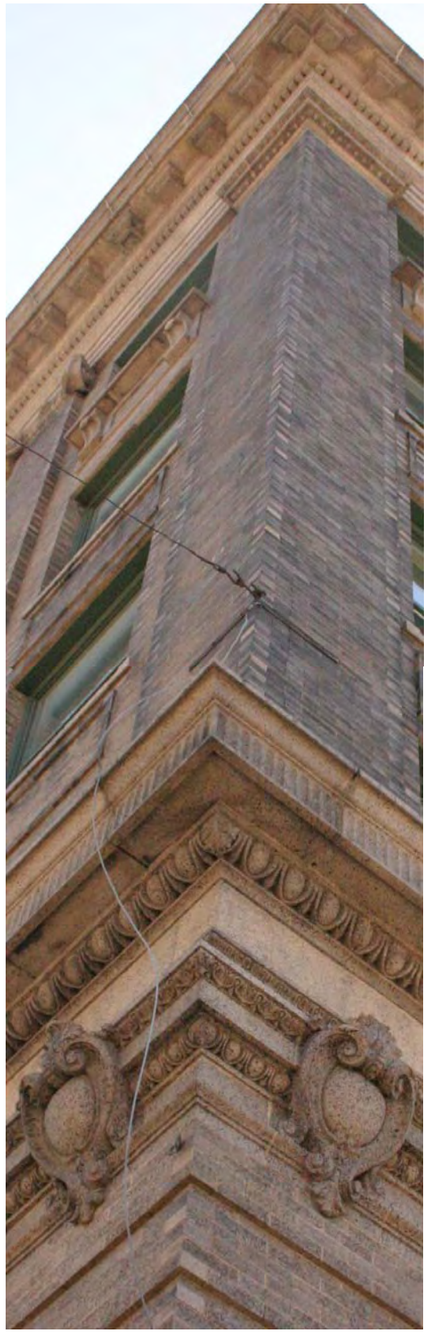
A Self-Supported Municipal Improvement District (SSMID) in the downtown was established in March 1982 with the purpose of redevelopment and revitalization. Promoting and assisting growth and development of business through activities in the public domain are the focus of SSMID expenditures. SSMID has cost shared landscaping and fencing project with private landowners, along public-private property edges. These projects have occurred as the City or SSMID become aware of a potential improvement project. A cost share policy was adopted determining SSMID's portion would be a maximum of 75% of the total project cost, with a maximum of $5,000. Priority goes to projects that are adjacent to existing public right of way. Exceptional projects may deviate from the general criteria SSMID established.

The Development Corporation of Greater Fort Dodge was established in 1970. They are a private, non-profit corporation organized to strengthen the economic viability of the Fort Dodge Downtown Urban Revitalization Area and the immediate surrounding area by assisting business development and expansion by providing low-interest financing in cooperation with local lenders. Currently, loans are made for a maximum of 50% of the required loan amount, with the remaining 50% or more being lent by a participating conventional lender or the borrowers cash reserves. Loans are targeted to those businesses unable to get all necessary funding through conventional financing, those who need reduced interest or extended term loans to make the business cash flow. General loans are limited to $75,000 or 15% of available funds, whichever is less. Façade loans are not to exceed $30,000.

It is recommended the City develop a brochure identifying these programs and general parameters, to promote them. Expanded information could also be provided on the City's website. At this time, for more information on these incentives, contact the City's office of Business Affairs and Community Growth.

Table 13 on the previous page summarizes the potential impact to many of the properties in proximity to the proposed Cross-Town Connection.





Costs of Public Improvements

This study has identified a number of component improvements to the transportation system. Most of these emanate from the realignment of 2nd Avenue S. to 1st Avenue S. to create the Cross Town Connector. Ancillary to that are the needs of the 1st Avenue S. corridor intersections east of Downtown, and the associated improvement needs of the Downtown District grid,

For purposes of cost analysis, we have segmented the improvements into the following:

- The Cross Town Connector - Karl King Bridge to the S. 12 Street Intersection
  - Segment 1 - Reconstruction of 2nd Avenue S from the Karl King Bridge to the start of the realignment.
  - Segment 2 - Construction of the realignment section from 2nd Avenue S to 1st Avenue S
  - Segment 3 - Reconstruction of 1st Avenue S from the end of the realignment to near the S 12th Street intersection
- Reconstruction of the 1st Avenue S and S 12th Street Intersection (two alternatives are offered, a standard signalized intersection and a roundabout intersection
- Signal modifications at the 1st Avenue S and S 15th Street intersection
- Widening and signal improvements at the 1st Avenue S and S 25th Street intersection
- Widening and signal improvements at the 1st Avenue S and S 29th Street intersection
- 1st Avenue North: - conversion to two way traffic, since the one way pair with 1st Avenue S is eliminated.

"Order of Magnitude" planning costs for these improvements are calculated in the following tables. Order of Magnitude cost opinions are intended to estimate the total project cost of a given improvement before any design efforts have occurred.

Descriptions for any anticipated work items are listed. Common units of measurement are specified, and approximate quantities are estimated. Some work items are very difficult to quantify, since little information is available without the design being complete. In those cases, lump sum amounts are budgeted based on factors from the engineer's past project experience. These can involve heuristic numbers developed from other projects. For example, if the project at hand will have lighting needs similar to other projects, then the total lighting cost of each project divided by that project's length would provide a heuristic number for use on the project at hand.

Since many necessary work items are unknown until the project is designed, some of the unit prices for major work items are set somewhat higher than what would be expected as a current bid price for that item. In addition, a 15% contingency is added to account for variability in the bid climate (how busy the contractors are, or how tight the construction schedule is) and additional unknown factors that can increase the construction costs.

Total project costs include right of way acquisition, and preliminary and construction engineering. Right-of-way acquisition is based on requiring the total acquisition of parcels affected by the realignment. Costs typically include estimated relocation assistance for each of those businesses as well. Partial takings are estimated as a cost per square foot based on the assessed value plus a contingency factor to better represent fair market value. Engineering costs are split in the manner of Federal Aid projects. Preliminary Engineering generally includes survey, design, plan production, and administrative services during the development of the project. Construction Engineering involves project inspection, testing, and construction administration services.

Similar to the heuristic estimating discussed earlier for work items that are difficult to quantify, percentages of construction are used to estimate the engineering costs. These percentages vary by the type and size of the project, and the anticipated level of effort required. For example, the work effort required for the design of a two lane roadway is generally similar to the work effort required to design a six-lane roadway, though the construction cost is significantly different. Alternatively, a smaller, less costly project, such as intersection widening, may require significant design effort, and therefore a higher percentage of the construction cost.

Each of the items listed in the Order of Magnitude Cost Opinions will need to be evaluated in the design phase. Items such as pavement condition, utility relocation, storm sewer, and landscape amenities will be reviewed and designed specifically for each segment of the project. For the purpose of developing this report, the subsequent cost opinions represent a "high range" of what can be expected. The cost opinions also do not take into consideration any inflation for portions constructed at later dates. Order of Magnitude Cost Opinions for the aforementioned project segments are provided on the following pages.

ORDER OF MAGNITUDE COST OPINION

FORT DODGE DOWNTOWN RE-ALIGNMENT

Segment 1 - Segment 3
Karl King Bridge to S. 12th Street Intersection

Approximate Length: 2,860 feet

Item Description	Quantity	Unit	Unit Cost	Total Cost
Mobilization	1	LS	$211,900	$211,900
Traffic Control	1	LS	$53,000	$53,000
Earthwork	12,000	CY	$6	$72,000
Subbase	12,370	TON	$18	$222,660
Pavement Removal	21,930	SY	$8	$175,440
Remove/Abandon Existing Pipe	9,710	LF	$5	$48,550
Remove Existing Structures	83	EA	$400	$33,200
Sanitary Sewer Pipe	2,700	LF	$60	$162,000
Sanitary Sewer Structures	11	EA	$3,000	$33,000
Sanitary Sewer Services	35	EA	$1,500	$52,500
Storm Sewer Pipe	3,800	LF	$80	$304,000
Storm Sewer Structures	57	EA	$3,500	$199,500
Storm Sewer Services	40	EA	$1,000	$40,000
Subdrain	5,720	LF	$12	$68,640
Water Main Pipe	3,210	LF	$50	$160,500
Water Main Hydrants	15	EA	$2,500	$37,500
Water Main Services	35	EA	$1,500	$52,500
PCC Pavement	17,050	SY	$44	$750,200
PCC Sidewalk	7,310	SY	$38	$277,780
Landscaping Amentities	1	LS	$675,000	$675,000
Underground Vaults	1	LS	$205,000	$205,000
Traffic Signal Removals	14	EA	$5,000	$70,000
Traffic Signals	4	EA	$150,000	$600,000
Lighting	1	LS	$365,000	$365,000
Subtotal				$4,604,970
Construction Contingency			15% +/-	$690,730
			Total Construction	**$5,295,700**
Engineering and Construction Services				$782,400
Right-of-Way				$705,000
			Total Project Cost	**$6,783,100**

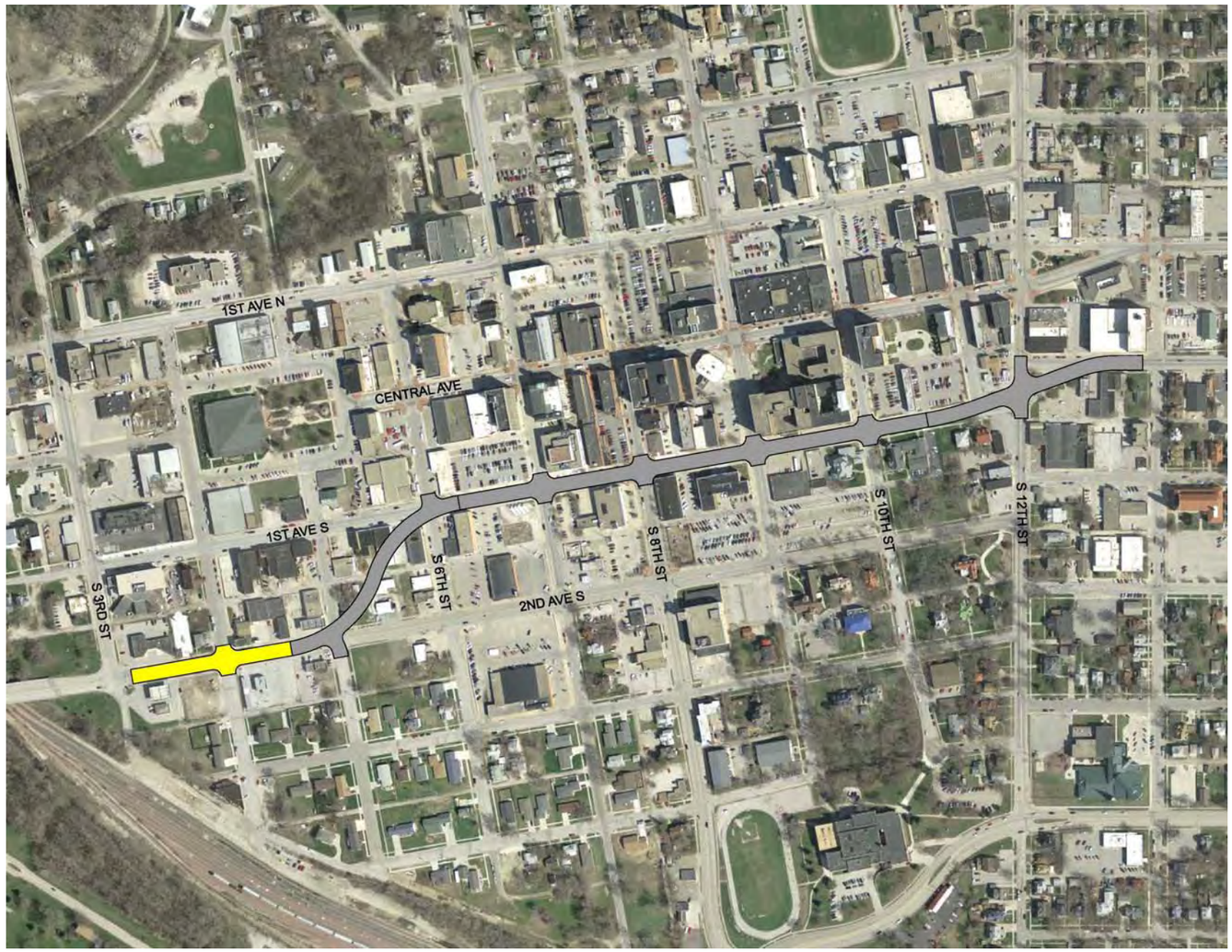
ORDER OF MAGNITUDE COST OPINION

FORT DODGE DOWNTOWN RE-ALIGNMENT

Segment 1
Reconstruction of 2nd Ave S from Karl King Bridge to Realignment

Approximate Length: 550 feet

Item Description	Quantity	Unit	Unit Cost	Total Cost
Mobilization	1	LS	$37,400	$37,400
Traffic Control	1	LS	$9,300	$9,300
Earthwork	2,040	CY	$6	$12,240
Subbase	2,260	TON	$18	$40,680
Pavement Removal	4,290	SY	$8	$34,320
Remove/Abandon Existing Pipe	1,890	LF	$5	$9,450
Remove Existing Structures	16	EA	$400	$6,400
Sanitary Sewer Pipe	600	LF	$60	$36,000
Sanitary Sewer Structures	1	EA	$3,000	$3,000
Sanitary Sewer Services	8	EA	$1,500	$12,000
Storm Sewer Pipe	690	LF	$80	$55,200
Storm Sewer Structures	12	EA	$3,500	$42,000
Storm Sewer Services	8	EA	$1,000	$8,000
Subdrain	1,100	LF	$12	$13,200
Water Main Pipe	600	LF	$50	$30,000
Water Main Hydrants	3	EA	$2,500	$7,500
Water Main Services	8	EA	$1,500	$12,000
PCC Pavement	3,100	SY	$44	$136,400
PCC Sidewalk	1,410	SY	$38	$53,580
Landscaping Amentities	1	LS	$75,000	$75,000
Traffic Signal Removals	1	EA	$5,000	$5,000
Traffic Signals	1	EA	$150,000	$150,000
Lighting	1	LS	$70,000	$70,000
Subtotal				$811,970
Construction Contingency			15% +/-	$121,830
			Total Construction	**$933,800**
Engineering and Construction Services				$139,200
Right-of-Way				$0
			Total Project Cost	**$1,073,000**



ORDER OF MAGNITUDE COST OPINION

FORT DODGE DOWNTOWN RE-ALIGNMENT

Segment 2
Realignment Section Between 2nd Ave S and 1st Ave S

Approximate Length: 760 feet

Item Description	Quantity	Unit	Unit Cost	Total Cost
Mobilization	1	LS	$56,200	$56,200
Traffic Control	1	LS	$14,100	$14,100
Earthwork	4,220	CY	$6	$25,320
Subbase	3,330	TON	$18	$59,940
Pavement Removal	4,800	SY	$8	$38,400
Remove/Abandon Existing Pipe	2,110	LF	$5	$10,550
Remove Existing Structures	18	EA	$400	$7,200
Sanitary Sewer Pipe	400	LF	$60	$24,000
Sanitary Sewer Structures	2	EA	$3,000	$6,000
Sanitary Sewer Services	8	EA	$1,500	$12,000
Storm Sewer Pipe	900	LF	$80	$72,000
Storm Sewer Structures	12	EA	$3,500	$42,000
Storm Sewer Services	8	EA	$1,000	$8,000
Subdrain	1,520	LF	$12	$18,240
Water Main Pipe	810	LF	$50	$40,500
Water Main Hydrants	4	EA	$2,500	$10,000
Water Main Services	8	EA	$1,500	$12,000
PCC Pavement	4,600	SY	$44	$202,400
PCC Sidewalk	1,940	SY	$38	$73,720
Landscaping Amentities	1	LS	$400,000	$400,000
Traffic Signal Removals	13	EA	$5,000	$65,000
Traffic Signals	0	EA	$150,000	$0
Lighting	1	LS	$95,000	$95,000
Subtotal				$1,222,270
Construction Contingency			15% +/-	$183,330
			Total Construction	**$1,405,600**
Engineering and Construction Services				$199,700
Right-of-Way				$705,000
			Total Project Cost	**$2,310,300**

ORDER OF MAGNITUDE COST OPINION

FORT DODGE DOWNTOWN RE-ALIGNMENT

Segment 3
Reconstruction of 1st Ave S from Realignment Section to S 12th Street

Approximate Length: 1,550 feet

Item Description	Quantity	Unit	Unit Cost	Total Cost
Mobilization	1	LS	$118,300	$118,300
Traffic Control	1	LS	$29,600	$29,600
Earthwork	5,740	CY	$6	$34,440
Subbase	6,780	TON	$18	$122,040
Pavement Removal	12,840	SY	$8	$102,720
Remove/Abandon Existing Pipe	5,710	LF	$5	$28,550
Remove Existing Structures	49	EA	$400	$19,600
Sanitary Sewer Pipe	1,700	LF	$60	$102,000
Sanitary Sewer Structures	8	EA	$3,000	$24,000
Sanitary Sewer Services	19	EA	$1,500	$28,500
Storm Sewer Pipe	2,210	LF	$80	$176,800
Storm Sewer Structures	33	EA	$3,500	$115,500
Storm Sewer Services	24	EA	$1,000	$24,000
Subdrain	3,100	LF	$12	$37,200
Water Main Pipe	1,800	LF	$50	$90,000
Water Main Hydrants	8	EA	$2,500	$20,000
Water Main Services	19	EA	$1,500	$28,500
PCC Pavement	9,350	SY	$44	$411,400
PCC Sidewalk	3,960	SY	$38	$150,480
Landscaping Amentities	1	LS	$200,000	$200,000
Underground Vaults	1	LS	$205,000	$205,000
Traffic Signals	3	EA	$150,000	$450,000
Lighting	1	LS	$200,000	$200,000
Subtotal				$2,570,730
Construction Contingency			15% +/-	$385,610
			Total Construction	**$2,956,340**
Engineering and Construction Services				$443,460
Right-of-Way				$0
			Total Project Cost	**$3,399,800**

ORDER OF MAGNITUDE COST OPINION

FORT DODGE DOWNTOWN RE-ALIGNMENT

South 12th Street Intersection (Re-Alignment)

Approximate Length: 900 feet

Item Description	Quantity	Unit	Unit Cost	Total Cost
Mobilization	1	LS	$44,500	$44,500
Traffic Control	1	LS	$11,100	$11,100
Earthwork	3,330	CY	$6	$19,980
Subbase	3,450	TON	$18	$62,100
Pavement Removal	8,000	SY	$8	$64,000
Remove/Abandon Existing Pipe	2,940	LF	$5	$14,700
Remove Existing Structures	22	EA	$400	$8,600
Sanitary Sewer Pipe	950	LF	$60	$57,000
Sanitary Sewer Structures	3	EA	$3,000	$9,000
Sanitary Sewer Services	8	EA	$1,500	$12,000
Storm Sewer Pipe	1,040	LF	$80	$83,200
Storm Sewer Structures	14	EA	$3,500	$49,000
Storm Sewer Services	8	EA	$1,000	$8,000
Subdrain	1,800	LF	$12	$21,600
Water Main Pipe	950	LF	$50	$47,500
Water Main Services	8	EA	$1,500	$12,000
Water Main Hydrants	5	EA	$2,500	$11,250
PCC Pavement	4,680	SY	$44	$205,920
PCC Sidewalk	2,300	SY	$38	$87,400
Landscaping Amentities	1	LS	$75,000	$75,000
Traffic Signal Modification	1	EA	$50,000	$50,000
Lighting	1	LS	$70,000	$70,000
Subtotal				$968,250
Construction Contingency			15% +/-	$144,750
			Total Construction	**$1,113,000**
Engineering and Construction Services				$166,900
Right-of-Way				$170,000
			Total Project Cost	**$1,449,900**

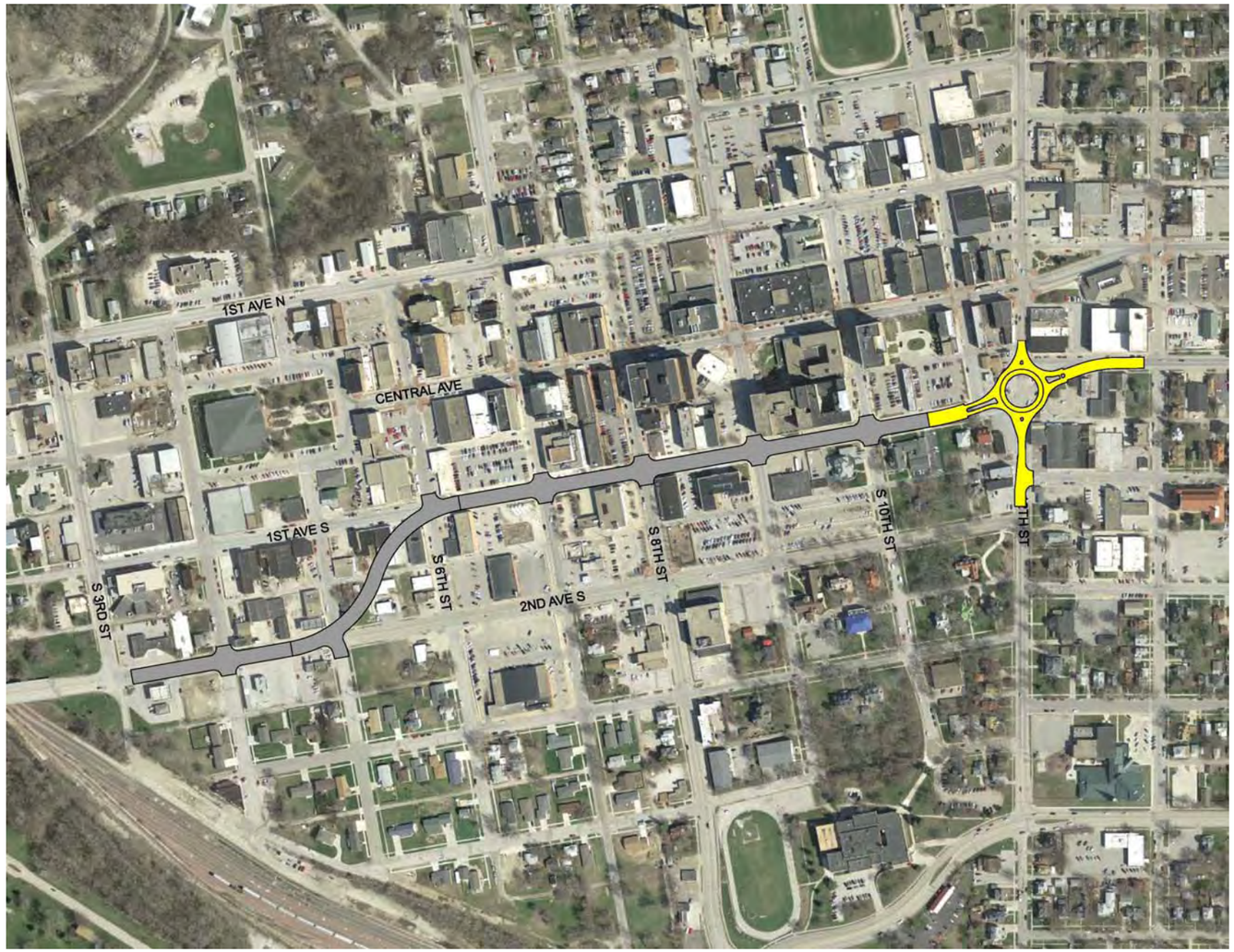
ORDER OF MAGNITUDE COST OPINION

FORT DODGE DOWNTOWN RE-ALIGNMENT

South 12th Street Intersection (Roundabout)

Approximate Length: 1290 feet

Item Description	Quantity	Unit	Unit Cost	Total Cost
Mobilization	1	LS	$59,400	$59,400
Traffic Control	1	LS	$14,900	$14,900
Earthwork	4,780	CY	$6	$28,680
Subbase	4,220	TON	$18	$75,960
Pavement Removal	10,910	SY	$8	$87,280
Remove/Abandon Existing Pipe	4,160	LF	$5	$20,800
Remove Existing Structures	27	EA	$400	$10,800
Sanitary Sewer Pipe	1,340	LF	$60	$80,400
Sanitary Sewer Structures	3	EA	$3,000	$9,000
Sanitary Sewer Services	13	EA	$1,500	$19,500
Storm Sewer Pipe	1,480	LF	$80	$118,400
Storm Sewer Structure	16	EA	$3,500	$56,000
Storm Sewer Services	13	EA	$1,000	$13,000
Subdrain	2,580	LF	$12	$30,960
Water Main Pipe	1,340	LF	$50	$67,000
Water Main Services	12	EA	$1,500	$18,000
Water Main Hydrants	8	EA	$2,500	$20,000
PCC Pavement	5,600	SY	$44	$246,400
PCC Sidewalk	3,300	SY	$38	$125,400
Landscaping Amentities	1	LS	$250,000	$250,000
Traffic Signals	0	EA	$150,000	$0
Lighting	1	LS	$15,000	$15,000
Subtotal				$1,292,580
Construction Contingency			15% +/-	$193,420
			Total Construction	**$1,486,000**
Engineering and Construction Services				$222,900
Right-of-Way				$170,000
			Total Project Cost	**$1,878,900**



ORDER OF MAGNITUDE COST OPINION

S 15TH STREET INTERSECTION SIGNAL MODIFICATIONS

Item Description	Quantity	Unit	Unit Cost	Total Cost
Rephasing, Retiming, Signal Mods	1	LS	$5,000	$5,000
Subtotal				$5,000
Construction Contingency			15% +/-	$750
			Total Construction	**$5,750**
Engineering and Construction Services				$2,250
			Total Project Cost	**$8,000**

ORDER OF MAGNITUDE COST OPINION

S 25TH STREET INTERSECTION IMPROVEMENTS

Item Description	Quantity	Unit	Unit Cost	Total Cost
Mobilization	1	LS	$20,000	$20,000
Traffic Control	1	LS	$15,000	$15,000
Topsoil	265	CY	$30	$7,950
Earthwork	1,400	CY	$12	$16,800
Subbase	3,350	SY	$8	$26,800
Pavement Removal	3,325	SY	$9	$29,925
Remove Existing Structure	4	EA	$750	$3,000
Storm Sewer Pipe	100	LF	$80	$8,000
Storm Sewer Structure	4	EA	$4,000	$16,000
Subdrain	1,600	LF	$9	$14,400
Water Main Hydrant	1	EA	$5,000	$5,000
PCC Pavement	2,300	SY	$55	$126,500
PCC Driveway	360	SY	$45	$16,200
Traffic Signals	1	EA	$150,000	$150,000
Subtotal				$455,575
Construction Contingency			15% +/-	$68,425
			Total Construction	**$524,000**
Engineering and Construction Services				$78,600
Right-of-Way	0.50	Acre	$200,000	$100,000
			Total Project Cost	**$702,600**

ORDER OF MAGNITUDE COST OPINION

S 29TH STREET INTERSECTION IMPROVEMENTS

Item Description	Quantity	Unit	Unit Cost	Total Cost
Mobilization	1	LS	$20,000	$20,000
Traffic Control	1	LS	$15,000	$15,000
Earthwork	1,300	CY	$12	$15,600
Subbase	3,300	SY	$8	$26,400
Pavement Removal	920	SY	$9	$8,280
Remove Existing Structure	4	EA	$750	$3,000
Remove Trees	16	EA	$500	$8,000
Storm Sewer Pipe	100	LF	$80	$8,000
Storm Sewer Structure	4	EA	$4,000	$16,000
Subdrain	1,500	LF	$9	$13,500
PCC Pavement	2,130	SY	$55	$117,150
PCC Driveway	200	SY	$45	$9,000
Traffic Signals	1	EA	$150,000	$150,000
Subtotal				$409,930
Construction Contingency			15% +/-	$61,070
			Total Construction	**$471,000**
Engineering and Construction Services				$70,700
Right-of-Way	0.50	Acre	$200,000	$100,000
			Total Project Cost	**$641,700**

ORDER OF MAGNITUDE COST OPINION

1ST AVENUE N FROM N 7TH STREET TO N 12TH STREET

Item Description	Quantity	Unit	Unit Cost	Total Cost
Mobilization	1	LS	$4,900	$4,900
Traffic Control	1	LS	$1,500	$1,500
Traffic Signal Removals	5	EA	$5,000	$25,000
Structure Adjustments	8	EA	$400	$3,200
Mill Pavement	4,300	SY	$7	$30,100
HMA Overlay, 3"	700	TON	$70	$49,000
Pavement Markings	1	LS	$20,000	$20,000
Signing	1	LS	$20,000	$20,000
Subtotal				$153,700
Construction Contingency			15% +/-	$23,100
			Total Construction	**$176,800**
Engineering and Construction Services				$26,500
Right-of-Way				$0
			Total Project Cost	**$203,300**

ORDER OF MAGNITUDE COST OPINION

CROSS-TOWN CONNECTOR DOWNTOWN PLAZA

Item Description	Quantity	Unit	Unit Cost	Total Cost
Mobilization	1	LS	$19,000	$19,000
Site Finish Grading	1	LS	$15,000	$15,000
Planting Bed Soil Placement	100	CY	$40	$4,000
Subdrain System - Planting Beds	160	LF	$25	$4,000
Water Service	1	LS	$5,000	$5,000
PCC Pavement, Plaza, Colored, 5"	11,500	SF	$13	$149,500
Planters / Walls / Seat Wall	1	LS	$100,000	$100,000
Electrical Service for Planting Wall / Sculpture	1	LS	$50,000	$50,000
Plantings	1	LS	$20,000	$20,000
Meter Pit, Backflow Preventer, Main Line and Drip System	1	LS	$20,000	$20,000
Construction Staking	1	LS	$10,000	$10,000
Subtotal				$396,500
Construction Contingency			15% +/-	$59,500
			Total Construction	**$456,000**
Engineering Services				$65,200
			Total Project Cost	**$521,200**

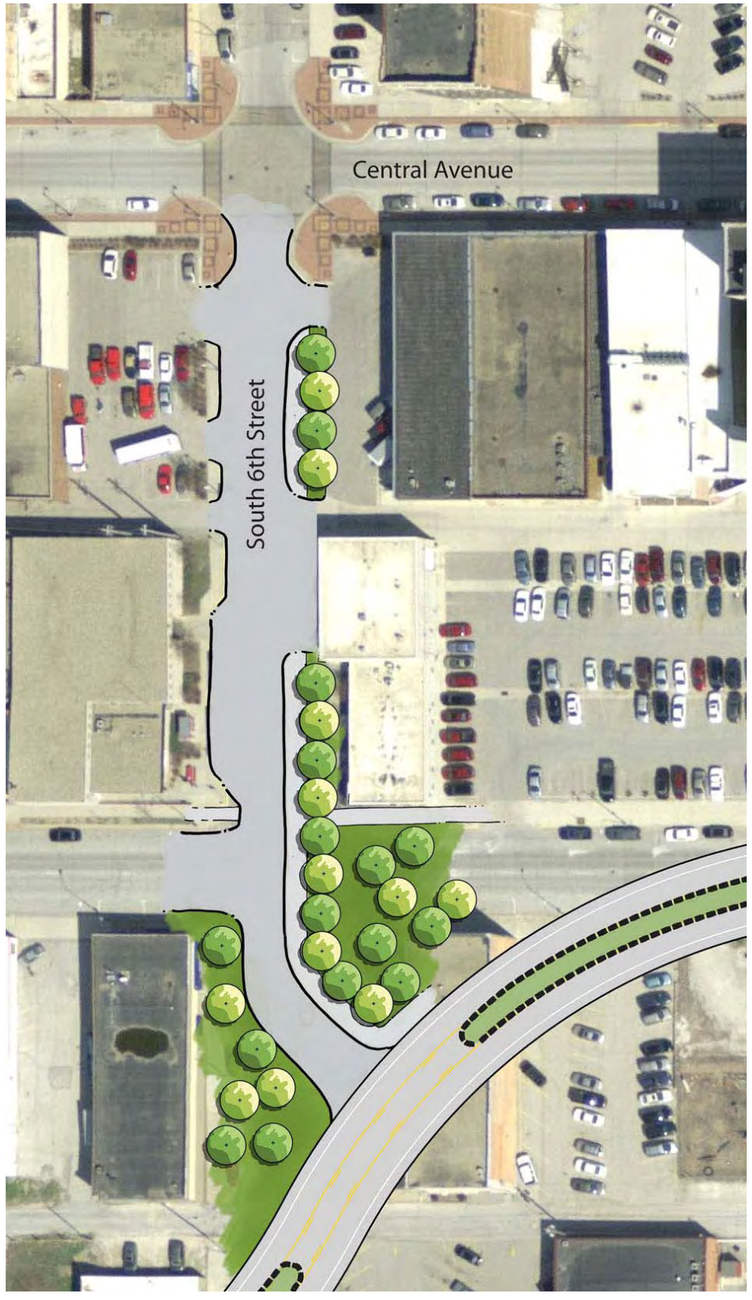
Above cost opinion does not include:
Demolition, Central Art Work Sculpture, Public Street & Sidewalk Improvements, and Water Main Improvements

Note: The concept shown above and cost opinion are preliminary and are subject to change during the design phase.

ORDER OF MAGNITUDE COST OPINION

6TH STREET PEDESTRIAN CORRIDOR

Item Description	Quantity	Unit	Unit Cost	Total Cost
Mobilization	1	LS	$5,000	$5,000
Site Demolition	1	LS	$10,000	$10,000
Earthwork	1	LS	$7,500	$7,500
Sidewalk	1	LS	$25,000	$25,000
Landscaping Amentities	1	LS	$14,500	$14,500
Lighting	1	LS	$18,000	$18,000
Subtotal				$57,500
Construction Contingency			15% +/-	$8,500
			Total Construction	**$66,000**
Engineering and Construction Services				$9,900
			Total Project Cost	**$75,900**



PROJECT PHASING

Year	2011				2012				2013				2014				2015	
Quarter	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2
PROJECT SEGMENT																		
Cross-Town Connector, Karl King Bridge to Realignment Section																		
Funding Application(s)																		
NEPA Clearance																		
Design and Plan Production																		
Letting / Construction																		
Cross-Town Connector, Realignment Section - 2nd Ave S to 1st Ave S																		
Funding Application(s)																		
NEPA Clearance																		
Design and Plan Production																		
Right of Way Acquisition																		
Letting / Construction																		
Cross-Town Connector, Realignment Section to S 12th Street																		
Funding Application(s)																		
NEPA Clearance																		
Design and Plan Production																		
Letting / Construction																		
Cross-Town Connector and S 12th Street Intersection Improvements																		
Funding Application(s)																		
NEPA Clearance																		
Design and Plan Production																		
Right of Way Acquisition																		
Letting / Construction																		
1st Avenue S and S 15th Street Intersection Improvements																		
Design and Plan Production																		
Construction																		
1st Avenue S and S 25th Street Intersection Improvements																		
Funding Application(s)																		
NEPA Clearance																		
Design and Plan Production																		
Right of Way Acquisition																		
Letting / Construction																		
1st Avenue S and S 29th Street Intersection Improvements																		
Funding Application(s)																		
NEPA Clearance																		
Design and Plan Production																		
Right of Way Acquisition																		
Letting / Construction																		
1st Avenue N Improvements - 7th Street to N 12th Street																		
Funding Application(s)																		
Design and Plan Production																		
Letting / Construction																		

*Note: Signal Removals for 1st Avenue N between N 7th Street and N 12th Street should correspond with signal removals proposed elsewhere in the Downtown are. All signals are to be removed during the construction of the Cross-Town Connector Realignment Section.

Project Next Steps

The significant costs involved in such a large project generally require Federal Aid assistance in order to fit within the fiscal limits of a local government.

Whenever a project receives Federal Aid, or if the improvements are located on a route administered by the state, specific processes are to be followed as they relate to land acquisition and identifying, avoiding, and/or mitigating environmental impacts.

NEPA Clearance

Following the adoption of this study by the City of Fort Dodge, the next step in making the improvements a reality is to guide the project through the NEPA (National Environmental Policy Act) process. Clearance through the NEPA process is required for all Federal actions. Until the project receives Federal Aid participation, the nexus that invokes NEPA requirements is portion of the intended improvements that involve Iowa Highway 926 / Business U.S. Highway 169, since the Iowa DOT receives Federal Aid for the maintenance of the State's highway system.

The NEPA process involves investigation of a number of potential impact categories, to determine if resources protected by Federal legislation will be adversely affected by the proposed project (called the "Proposed Action").

It is typical that the design of the project is carried forward to approximately 30% completion during the NEPA process, so that specific and reasonably precise impact limits can be determined and understood

As a densely developed Downtown area, the project environs do not appear to include protected resources associated with the natural environment. The human environment will be the key issue. One certain consideration is the potential impact to the Downtown Historical District, through impacts to structures that are contribute to the integrity of the district.

The decision mechanism for historical and cultural resource impacts is called a Section 4(f) Statement (refers to a particular section of the Code of Federal Regulations). As part of the preparation of the 4(f) Statement, alternatives to the Proposed Action must be considered to avoid, minimize, or mitigate the 4(f) impact.

The NEPA process must be completed and cleared prior to any project activities, such as right-of-way acquisition or final roadway design, taking place. Once the project is cleared and authorized to proceed in development, the next step is the acquisition of right of way.

Right-of-Way Acquisition

Federal Aid procedures will be required for the right-of-way acquisition, due to the presence of the State Highway. The Uniform Act must be followed, to ensure affected property owners are treated fairly. Generally, if the acquisition follows the requirements of the Iowa Code, then the Uniform Act is also being followed. The main difference will be the coordination with Iowa DOT Office of Local Systems staff before authorization to proceed.

The City of Fort Dodge has been purchasing parcels in the Downtown area from willing sellers as opportunities arise. This is based on recommendations in the Downtown Plan, to create redevelopment opportunities.

Funding

Currently, the City has allocated up to $3 million dollars for the design, land acquisition, and construction of the roadway improvements. That leaves well over $6 million dollars in funds to be procured from other sources. A variety of funding opportunities are available. These include:

The Surface Transportation Program (STP) is a source of Federal funding that is dispersed by the State of Iowa to each and all of the MPO's (Metropolitan Planning Organizations) and RPA's (Regional Planning Alliances) for distribution to member governments. Fort Dodge would apply to MIDAS Council of Governments for STP funding. Approximately $1,000,000 per year is available on a competitive basis.

The Iowa Clean Air Attainment Program (ICAAP) is a funding mechanism that aims to reduce traffic congestion and delays, thereby improving air quality. These funds are best suited toward intersection and capacity improvements. The program is funded approximately $4.7 million annually. Applications are due October 1 each year.

The Traffic Safety Improvement Program is intended to fund projects that reduce crash frequency and severity. Projects typically include intersection improvements, but can also include roadway geometry and clear zone improvements. The program is funded one-half percent of Iowa's Road Use Tax Fund (approximately $5.4 million annually). Site specific funding cannot exceed $500,000 per project. Applications are due August 15 each year.

Transportation Enhancement (TE) funding is applicable to this project in a number of ways. First, the multi modal or "complete street" aspects of the project are fundamental to what Transportation Enhancement funding was originally intended for. Therefore elements such as bike lanes or pedestrian improvements could be partially funded through this program. There is also an element of Transportation Enhancement that involves scenic byways. This is a funding element that may be applicable to streetscape elements. Finally, there is a historical preservation element of Transportation Enhancement that could be used for appropriate replica lighting. TE funding is available regionally (through the RPA) and Statewide. Regional allocations are typically small, and sometimes allocated several years into the future, but they are less competitive than Statewide.

The City has proposed an amount of $100,000 in funding through the Iowa's Great Places Program for the plaza improvements