

# Joint Workshop of the Prior Lake City Council and the Scott County Board

February 27, 2017





# Agenda

1. Introductions (15 Minutes)
2. Background of CH 21 Corridor (CH 82 – CH 87)  
(1 1/2 hour)
3. Direction on potential alternatives for research at joint March meeting (15 minutes)



# CH 21 and Downtown History

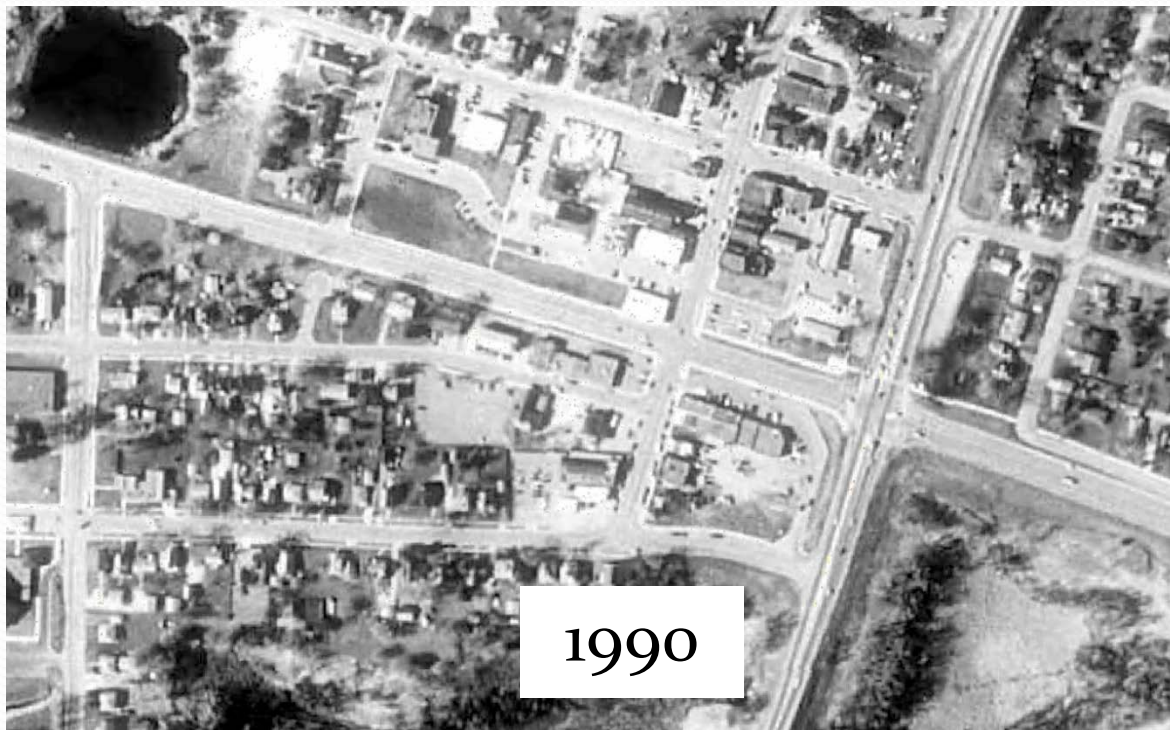
1. CH 21 and Downtown History
2. CH 21 Corridor Study (2003-2005)
3. CH 21 Realignment and Bridge Study (2011)
4. Prior Lake Downtown South Study (2012)
5. CH 21's Role in the Region
6. Prior Lake Downtown – Data
7. Regional Applications (2013, 2014, 2016)



# CH 21 -

## Downtown History

- **1980** RR abandoned
- **1985** – CH 21 constructed from Quincy St. to Main Ave.
- **1989** – CH 21 constructed from Main to Fish Point Rd.
- **1992** - Wagon Wheel bridge 2 lane to 4 lane





# CH 21 Corridor Study (2003-2005)

## Pressures Leading to Corridor Study

- CH 21 had been in existence for 13 years at this point.
- Concerns about safety and delay (4-lane undivided intersection)
- County/City pressures DOT to split phase the TH 13/CH 21 signal
- DOT OK's phased signal but asks for long term plan
- County, City and DOT agree to perform a study on CH 21 and its operations

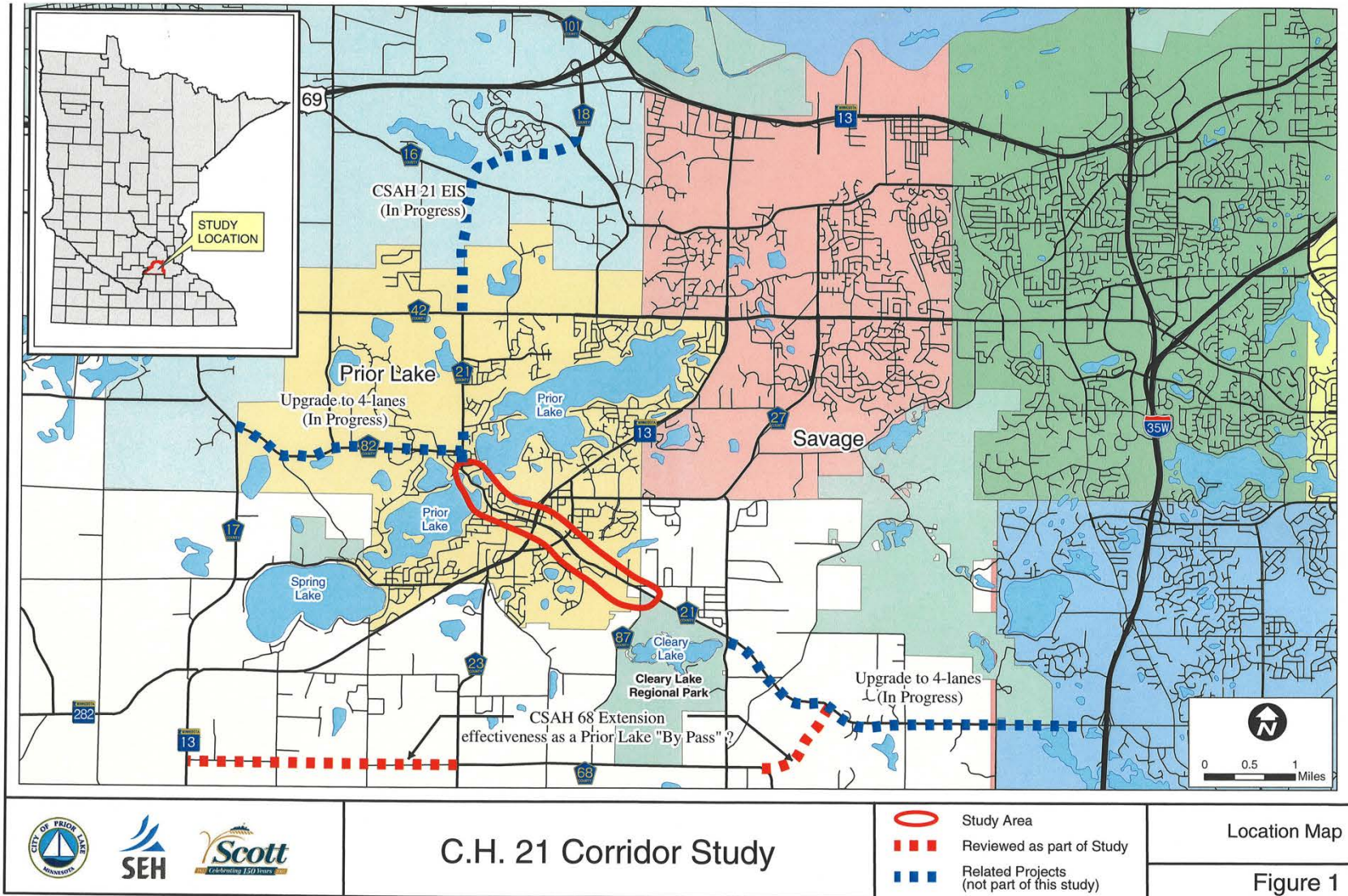


# Study – Vision for Corridor

- Safety
  - Four Lane Undivided Roadway (entire corridor)
    - Crashes at TH 13
    - Franklin Trail
- Mobility
  - Minor Arterial
  - Pedestrian Access
- Economic Vitality
  - Downtown Prior Lake
  - Connections to Shakopee and Lakeville



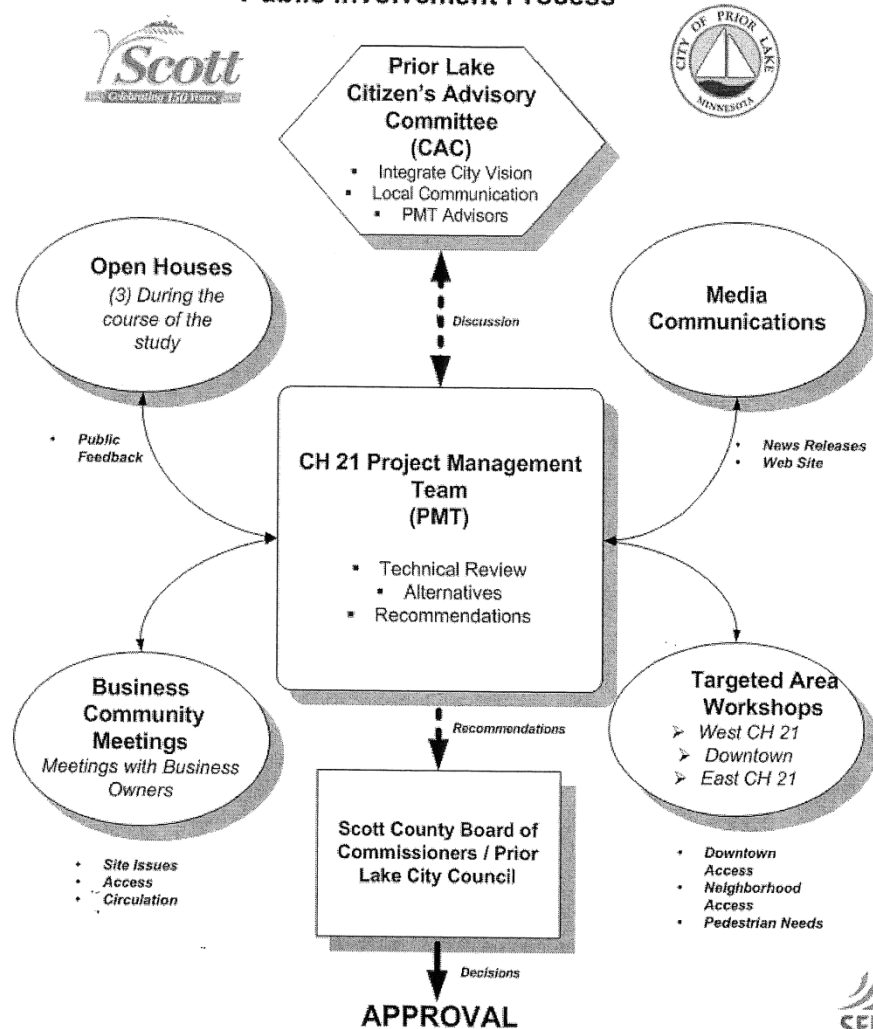
# Corridor Study Area





# Public Involvement Process

## Scott County Highway 21 Corridor Study Public Involvement Process





# Data Used in Study

- 2002 Traffic Counts
- 2025 Traffic Forecasts
- Traffic Conflict Study at Main Avenue
- Access Analysis – variances needed
- Transit Needs –Existing TH 13 lot /potential CH 21 lot
- Stormwater Management Needs



# Development and Evaluation

Downtown Improvement Needs	How Well Does the Improvement Concept Address the Need?				
	Concept		Concept D2	Concept D3	Concept D4
	D1	D1A			
<b>Maintains convenient access for downtown</b>	All existing access maintained but creates congestion +	Closes access from TH 13 to Dakota and Pleasant -	Main Ave is right in/right out. Left turns at Duluth -	Main Ave is right in/right out. Left turns at Duluth -	Main Ave is right in/right out. Left turns at Arcadia, but relieves congestion +
<b>Improves all-way stop at Main Ave</b>	Stop sign issues vs signal issues -	Stop sign issues vs signal issues -	Median closures at Main Ave ++	Median closures at Main Ave ++	Median closures at Main Ave ++
<b>Improves traffic flow on TH 13</b>	Dakota, Pleasant and Main Ave issues --	Main Ave issues only -	 +	 +	 +
<b>Improves traffic flow on CH 21</b>	Signals at Duluth, Main and TH 13 --	Signals at Duluth, Main and TH 13 --	Signals at Duluth and TH 13 +	Signals at Duluth and TH 13 +	Signals at Arcadia and TH 13 ++
<b>Consistent with 2020 vision</b>	 °	 °	 -	 -	Supports downtown growth to the west +
<b>Improves safety</b>	Most signals and access --	 -	 +	 +	 +
<b>Minimizes right of way impacts</b>	 °	 °	 --	 --	 °
<b>Minimizes water resource impacts</b>	 °	 °	 --	 --	 -
<b>Best value (function and cost)</b>	 -	 -	 -	 -	 +

++ Addresses need / - Somewhat addresses needs / ° Neutral

- Leaves some needs unattended / -- Works against the need



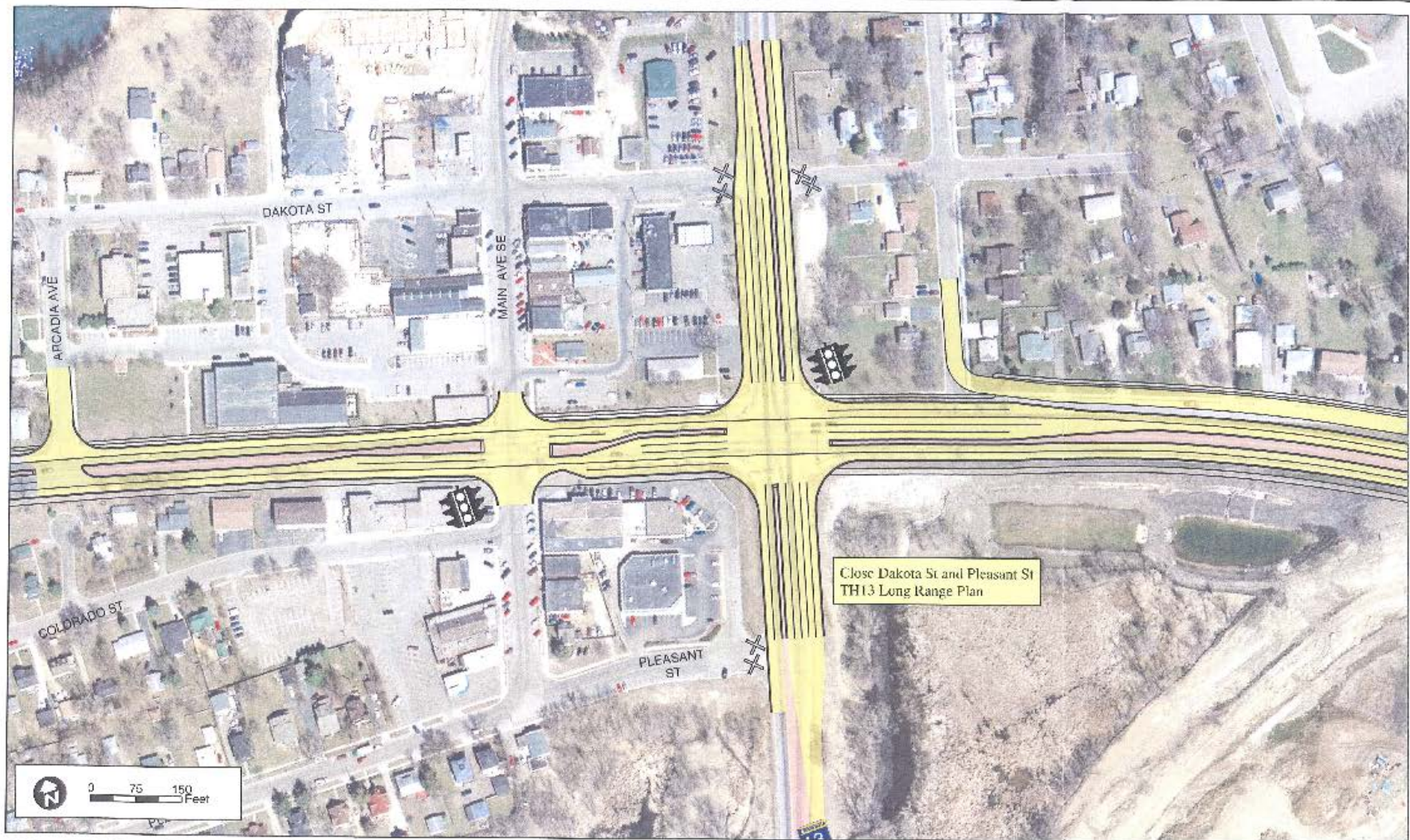


## C.H. 21 Corridor Study

Concept D1

Figure G2



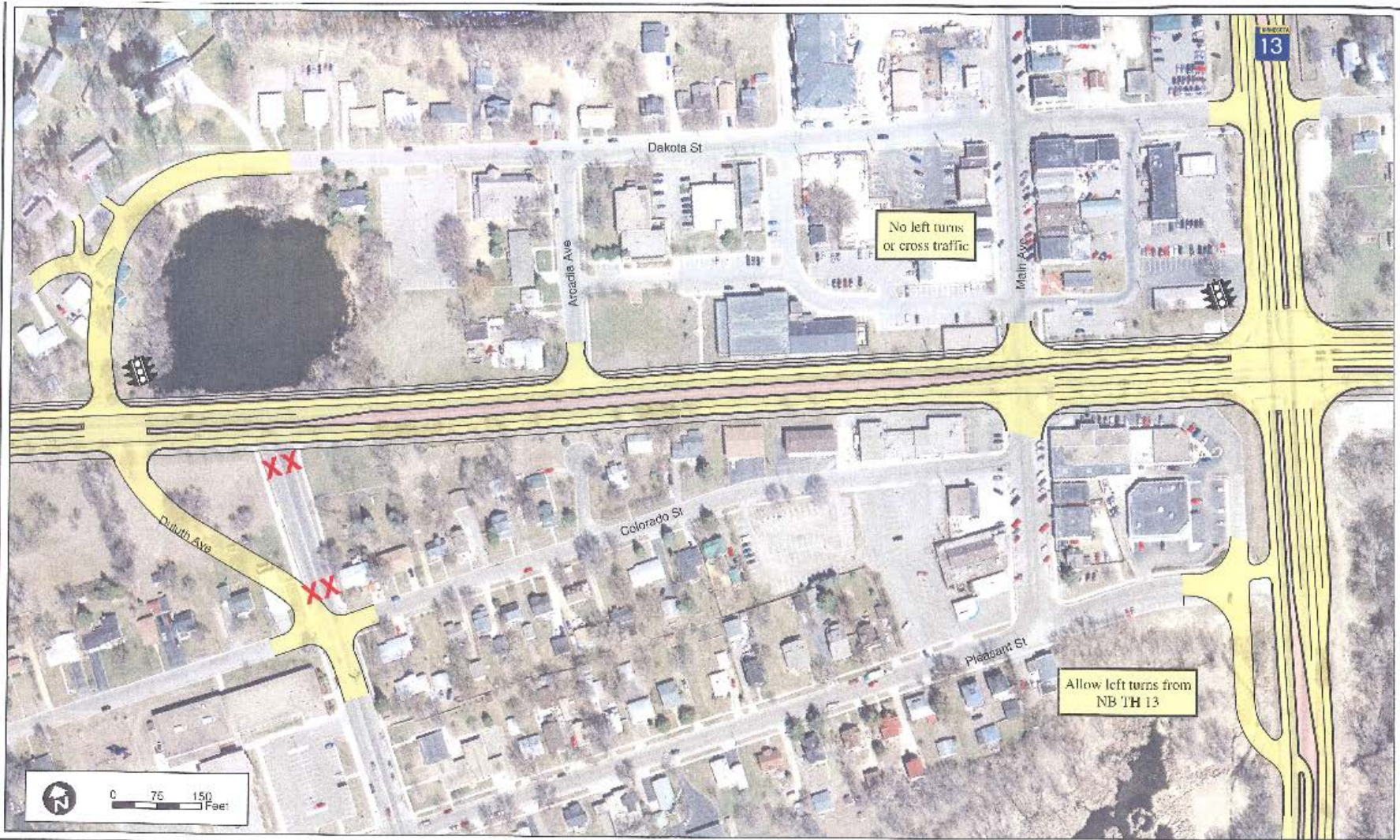


## C.H. 21 Corridor Study

Concept D1A

Figure G3



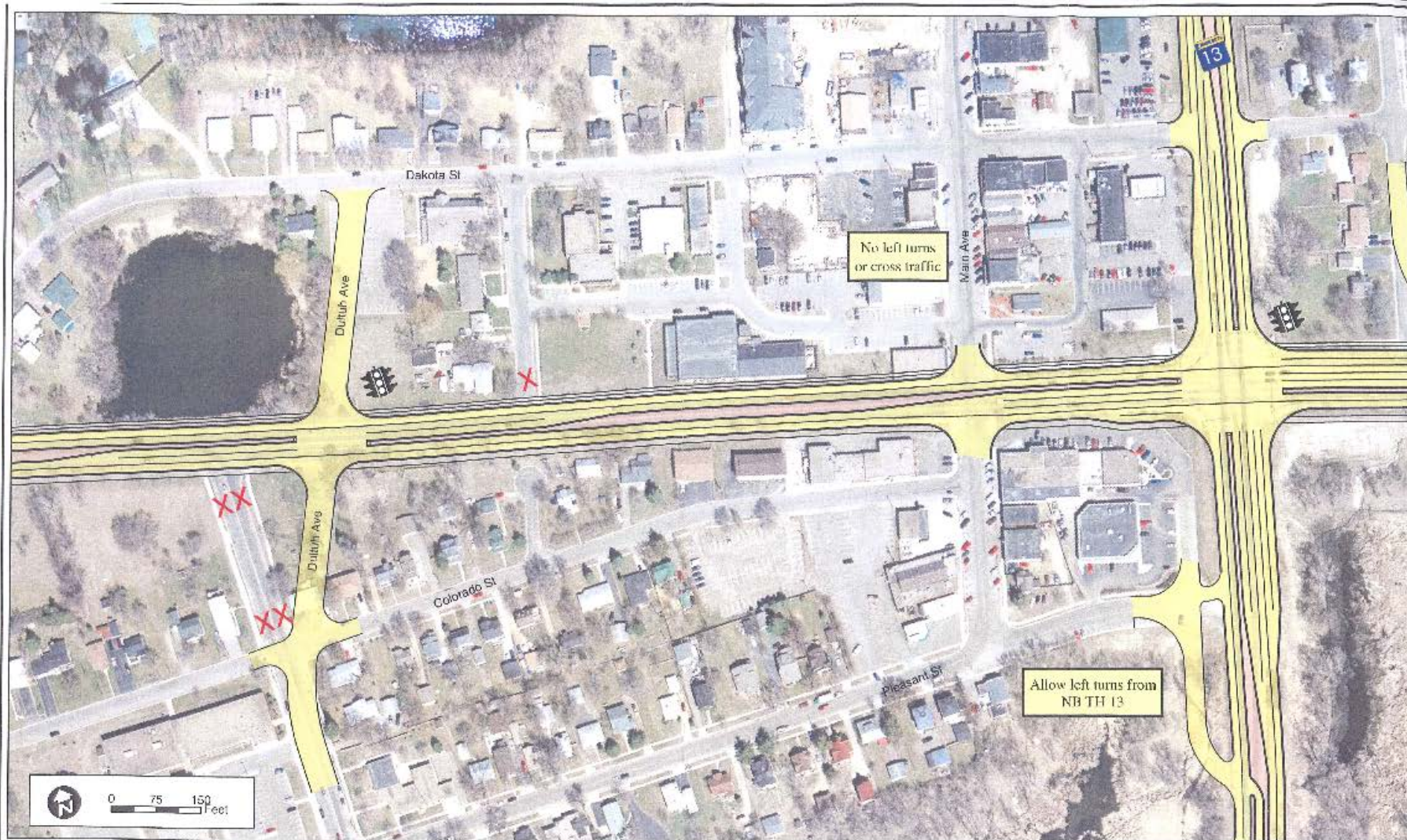


## C.H. 21 Corridor Study

Concept D2

Figure G4



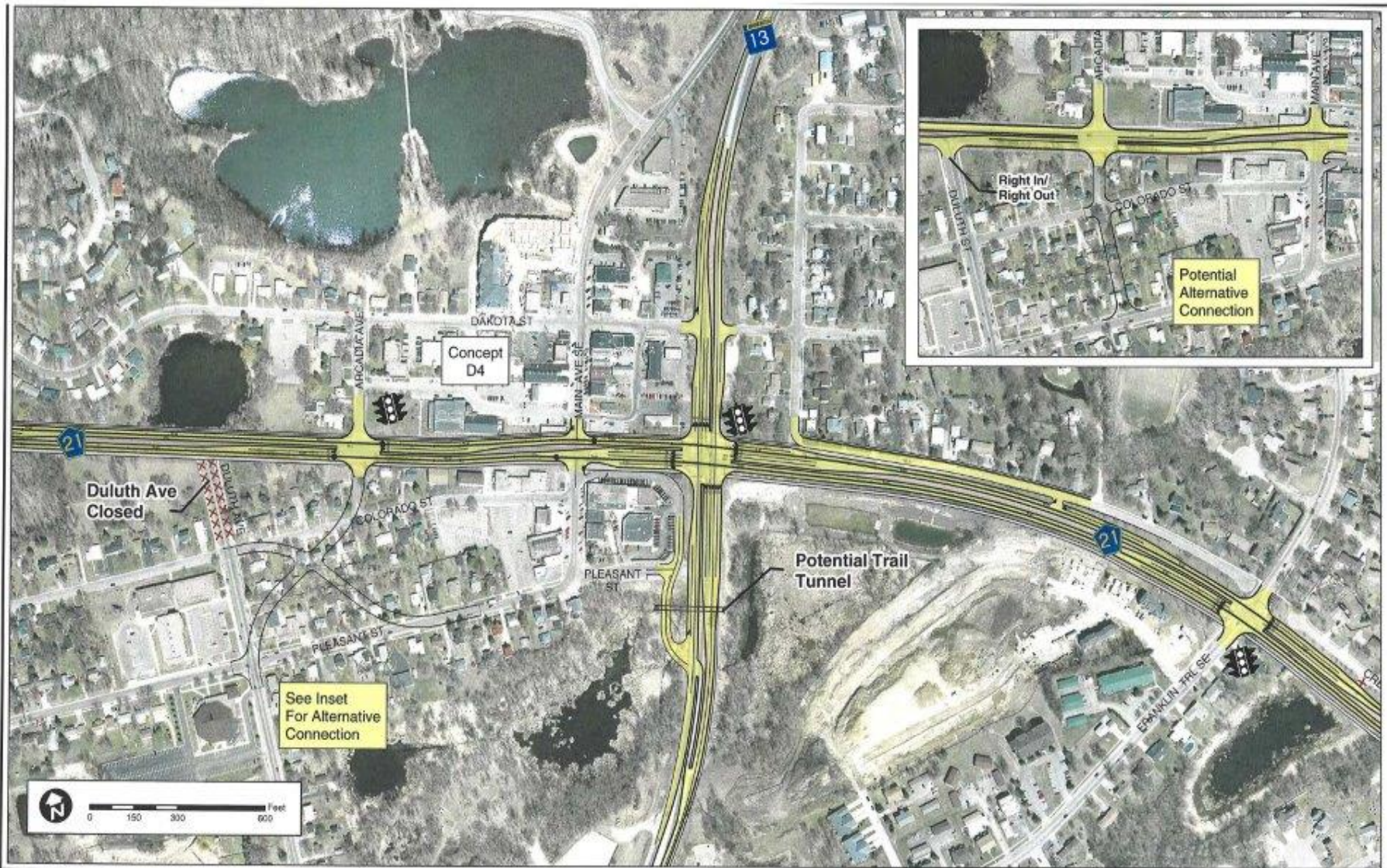


## C.H. 21 Corridor Study

Concept D3

Figure G5





## C.H. 21 Corridor Study

Recommended  
Concept - Downtown

Figure J2



# Downtown Corridor Findings

- All way stop at Main results in vehicle conflicts
- Downtown businesses fear that altering the access at Main Avenue would negatively impact them.
- Access to Dakota and Pleasant from TH 13 is valued highly by businesses.
- Safety and capacity on CR 21 can be met without adding through lanes. Turn lanes would add capacity and increase safety.
- Additional through lane needed on TH 13 in each direction.
- Double left turn lanes from CR 21 to TH 13 needed.
- The width needed for the CR 21 and TH 13 intersection requires property acquisition on the SW and NE quadrants of the intersection.



# Downtown Corridor Findings

- County Road 21 with a signalized intersection at Arcadia Avenue performs better than at Main Ave and provides the following advantages:
  - Lower vehicle delays on CR 21 and TH 13 resulting in an acceptable Level of Service and higher capacity.
  - Improved safety through longer spacing between full intersections
  - Shorter vehicle queues on Main Ave. Fewer blockages of driveways and streets near CR 21.
  - Reduced interference with angle parking in front of businesses.



# Recommendation

- Project Management Team recommended alternative D4
  - Downtown access from CR 21 refocused to Arcadia Ave.
  - Arcadia reopened to the south
  - Main Ave restricted to right in / right out
  - New access from northbound TH 13 at Pleasant St.
  - Existing right in / right out at Pleasant and Dakota St. retained.
  - Realignment of Duluth to Arcadia could be planned in conjunction with redevelopment
- Arcadia was closest allowable full access in proximity to TH 13 considering mobility, safety, and traffic conflicts.
- Access at Arcadia was more desirable than Duluth by downtown businesses.

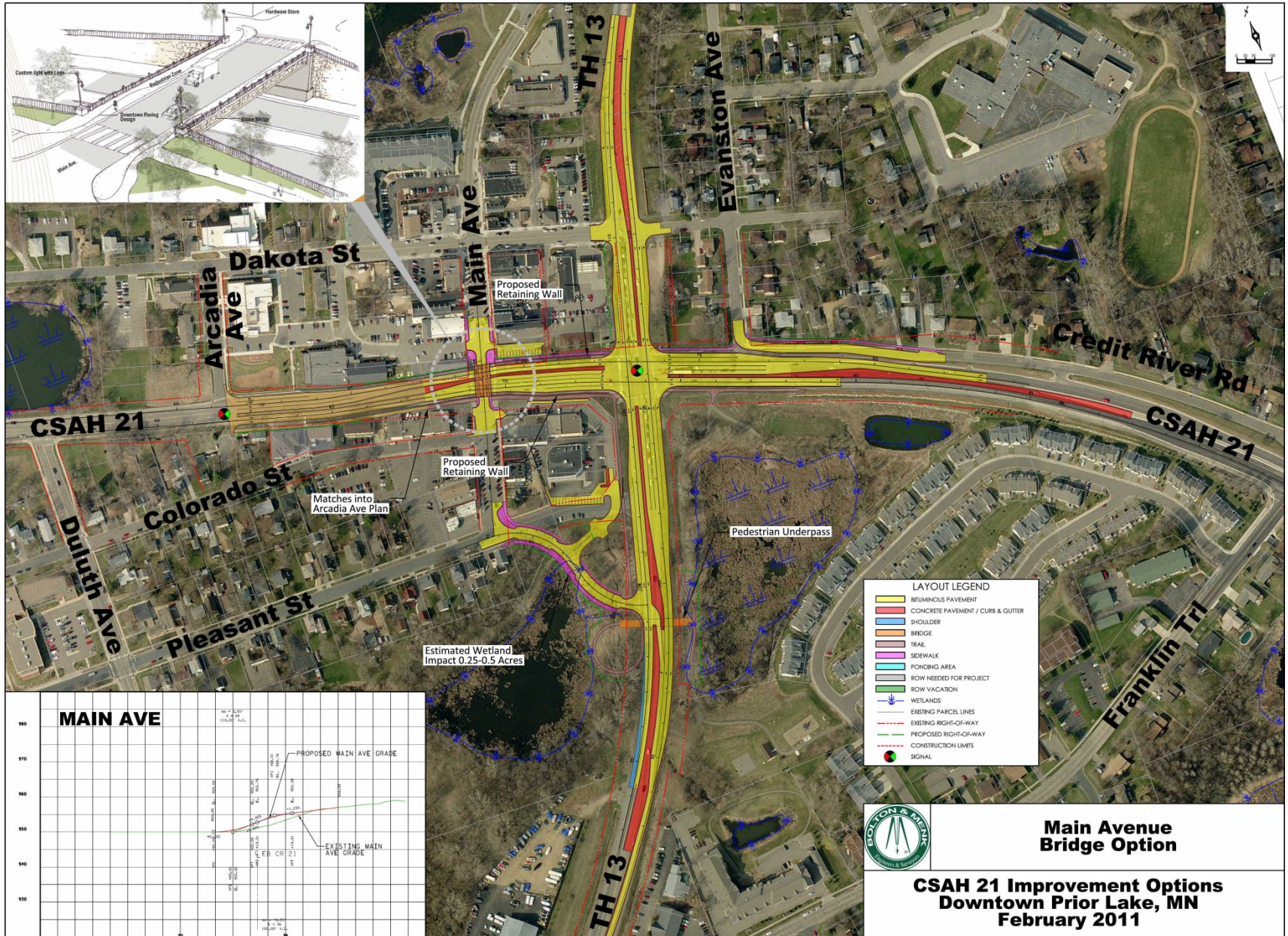


# CH 21 Realignment and Bridge Study (2011)

- Led by the City of Prior Lake
- Goal of the study was to evaluate larger solutions that avoided Main intersection cross street closure
- County and MnDOT Participated
- Rejected any options based on cost and other impacts
- Downtown market potential analysis of Downtown options by Maxfield Research Inc.
  - Downtown is small – needs more contiguous area
  - CH 21 less exposure to CH 21 traffic



# Main Ave. Bridge Option - \$17.1 - \$18.4 Million





# Realignment Option A – \$21 – \$25.2 Million





# Realignment Option B – \$19.8 - \$23 Million





# Downtown South Study (2012)

## Study Location

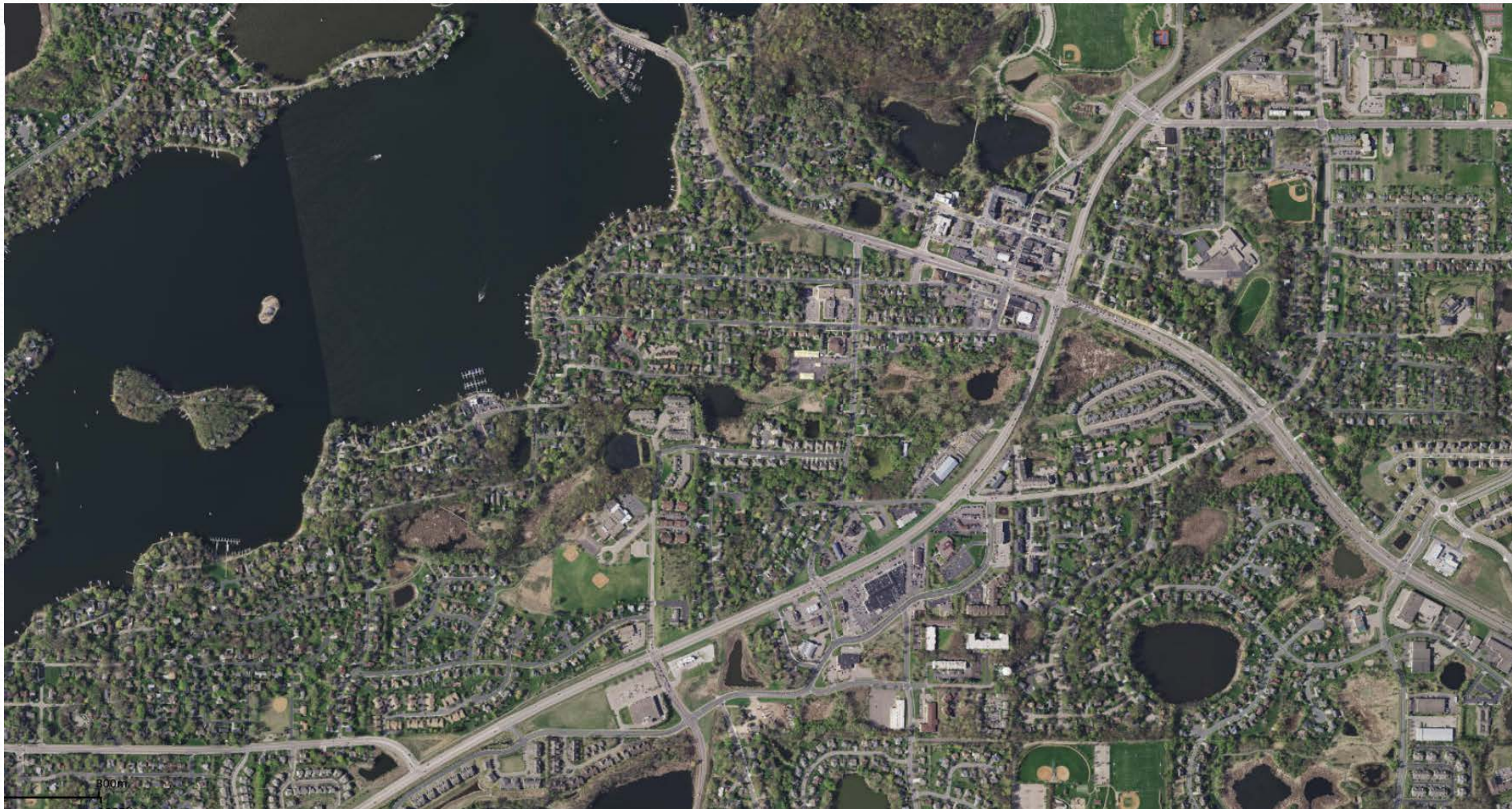


Image: Bing.com

**BOLTON & MENK, INC.**  
Consulting Engineers & Surveyors



# Downtown South Study Area





# Baseline Considerations

- Highway 13
  - CH 21 intersection improvements
  - $\frac{3}{4}$  access at realigned Pleasant Street
- County Highway 21
  - Future signal at Arcadia Ave.
  - Duluth Avenue median closure
  - Main Avenue median closure
- Transitional Town Center
- Market Potential
  - South Downtown: 29,000 s.f.
  - Loren Gross and Diggers: 41,000 s.f.



# Development of Concepts

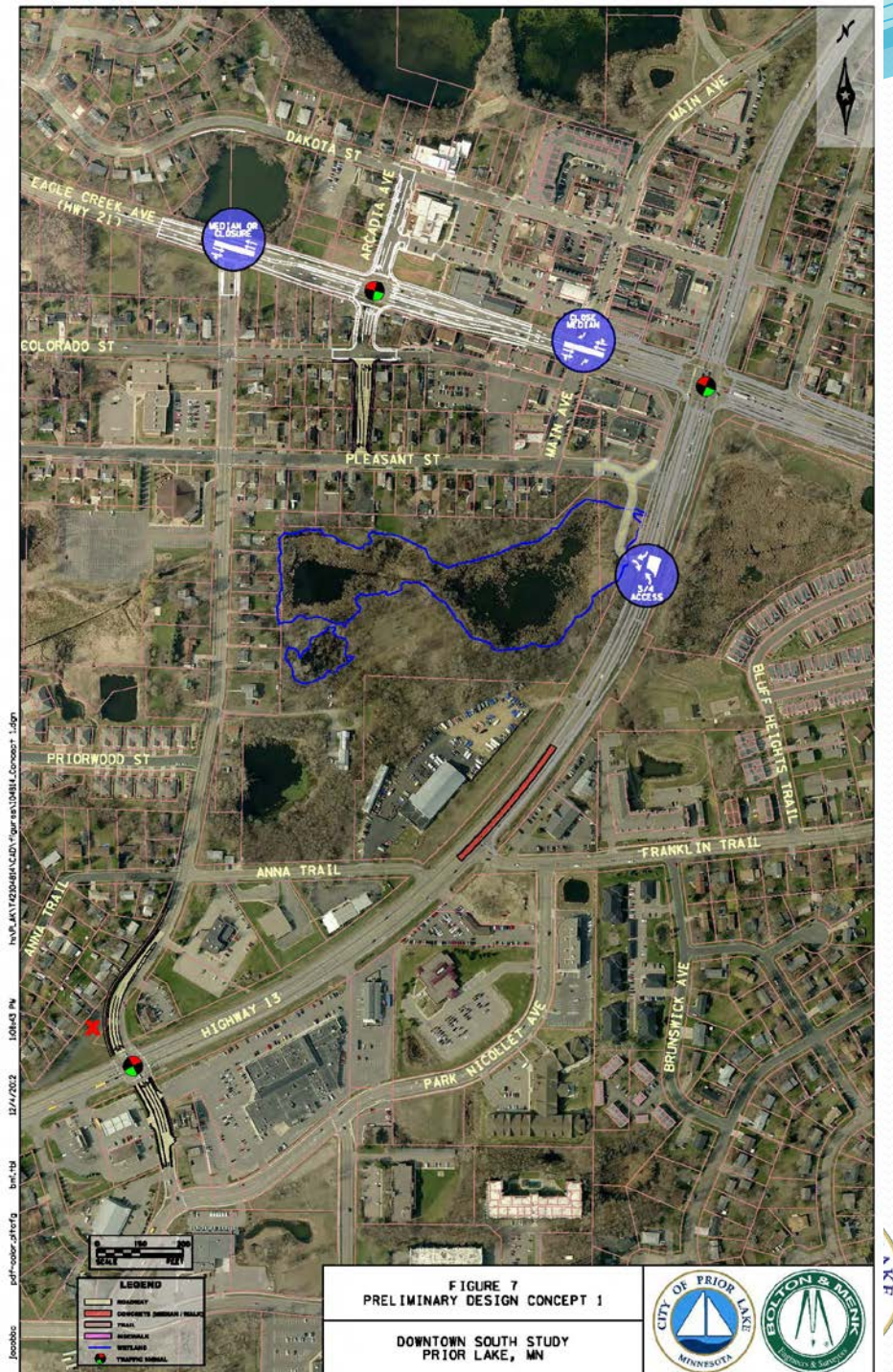
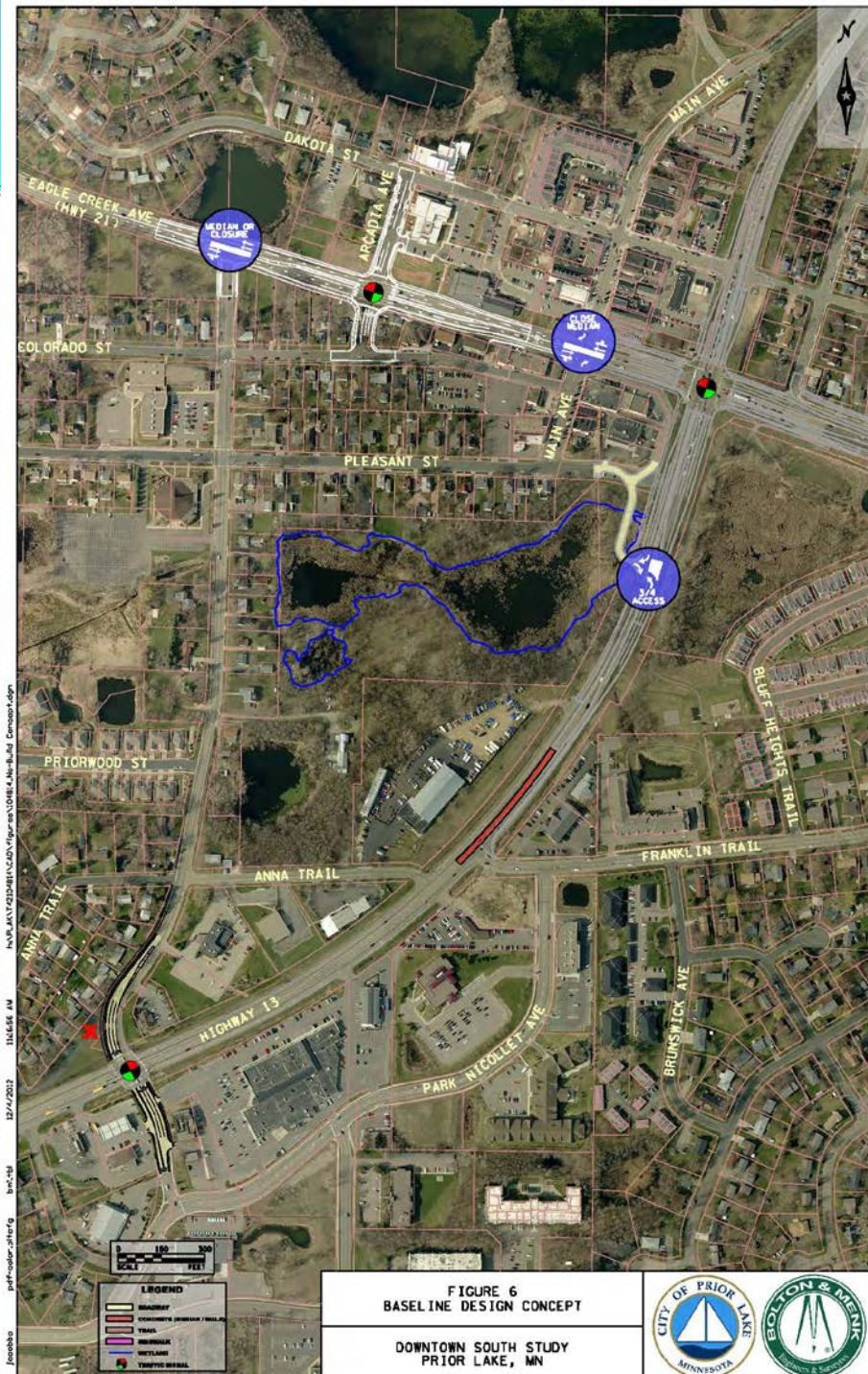
- Thirteen Concepts Developed
- Concepts Reviewed
  - Alternatives removed due to:
    - Property impacts for minimal improvement
    - Roadway configuration and access
    - Intersection spacing
    - Intersection Skew
  - Five options for further analysis (Baseline, Concept 1, Concept 4, Concept 6, and Concept 9)



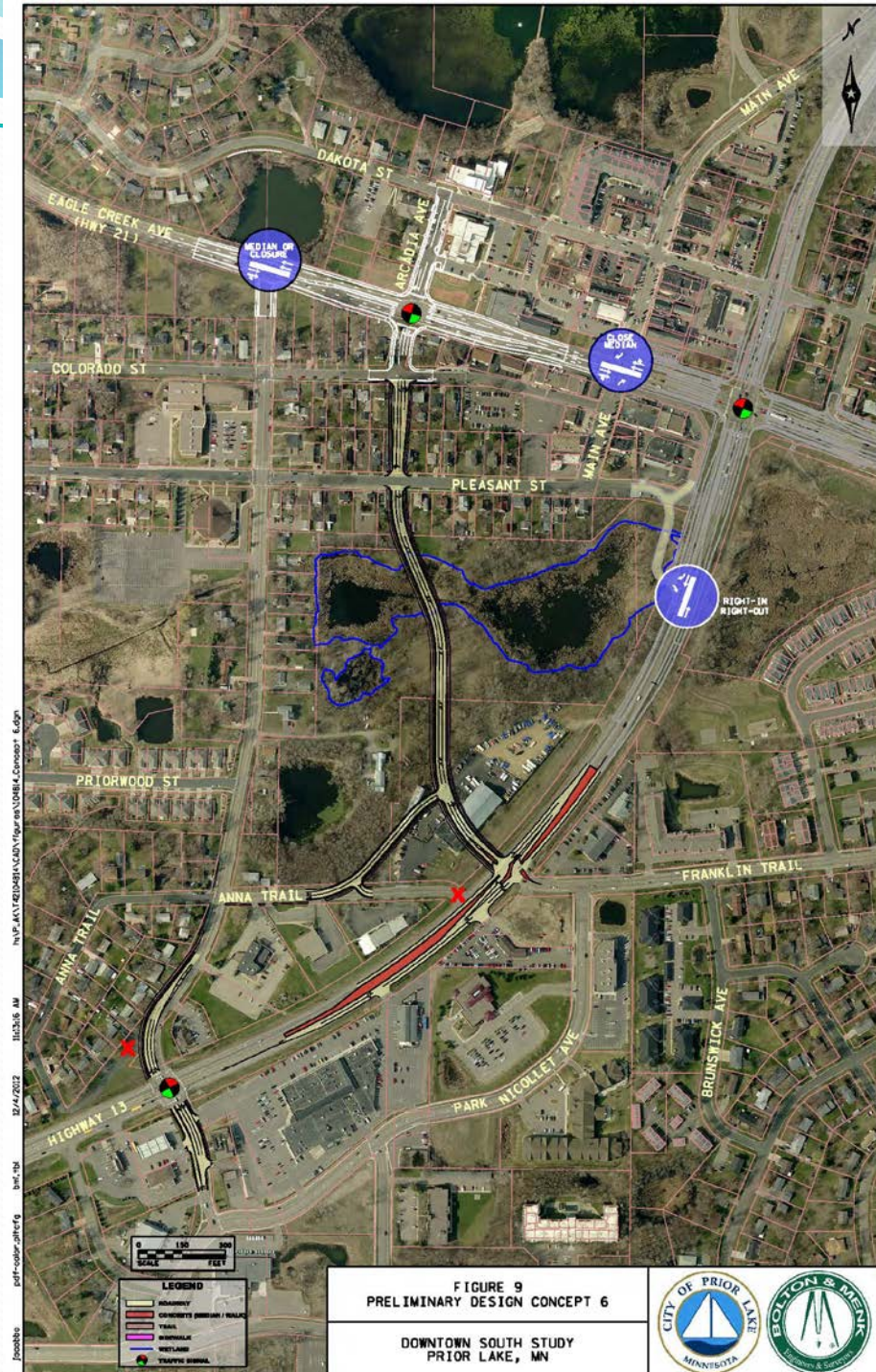
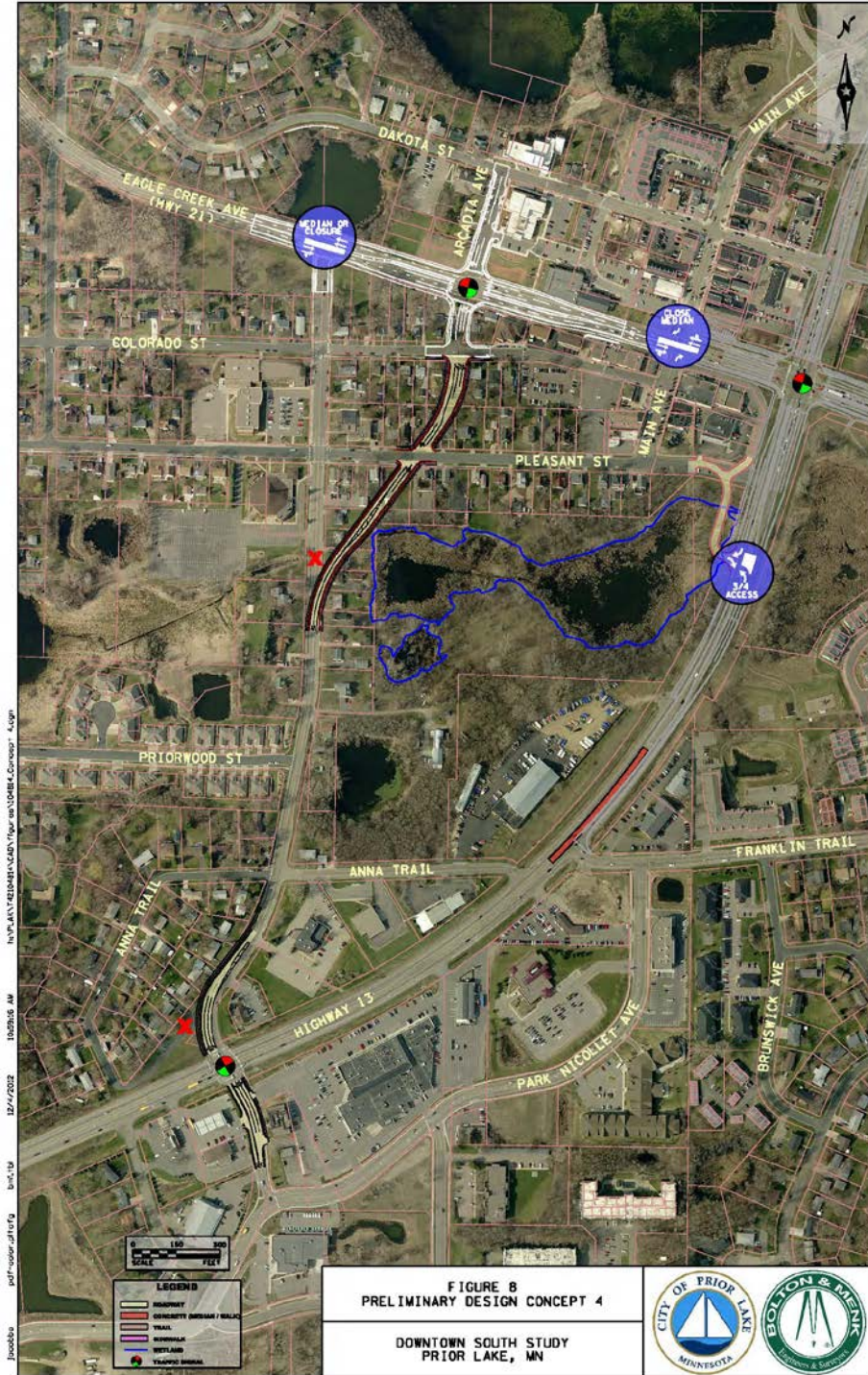
# Citizen Business Group Comments

- Preserve existing homes, businesses, neighborhoods
- Address current issues
  - Safe pedestrian crossings needed
  - Lower speed limits
- Provide connections and access
  - $\frac{3}{4}$  access needed at TH 13 / Pleasant
  - Need connection from Anna to Pleasant
  - Need connection from Colorado to Pleasant
  - Open areas for development





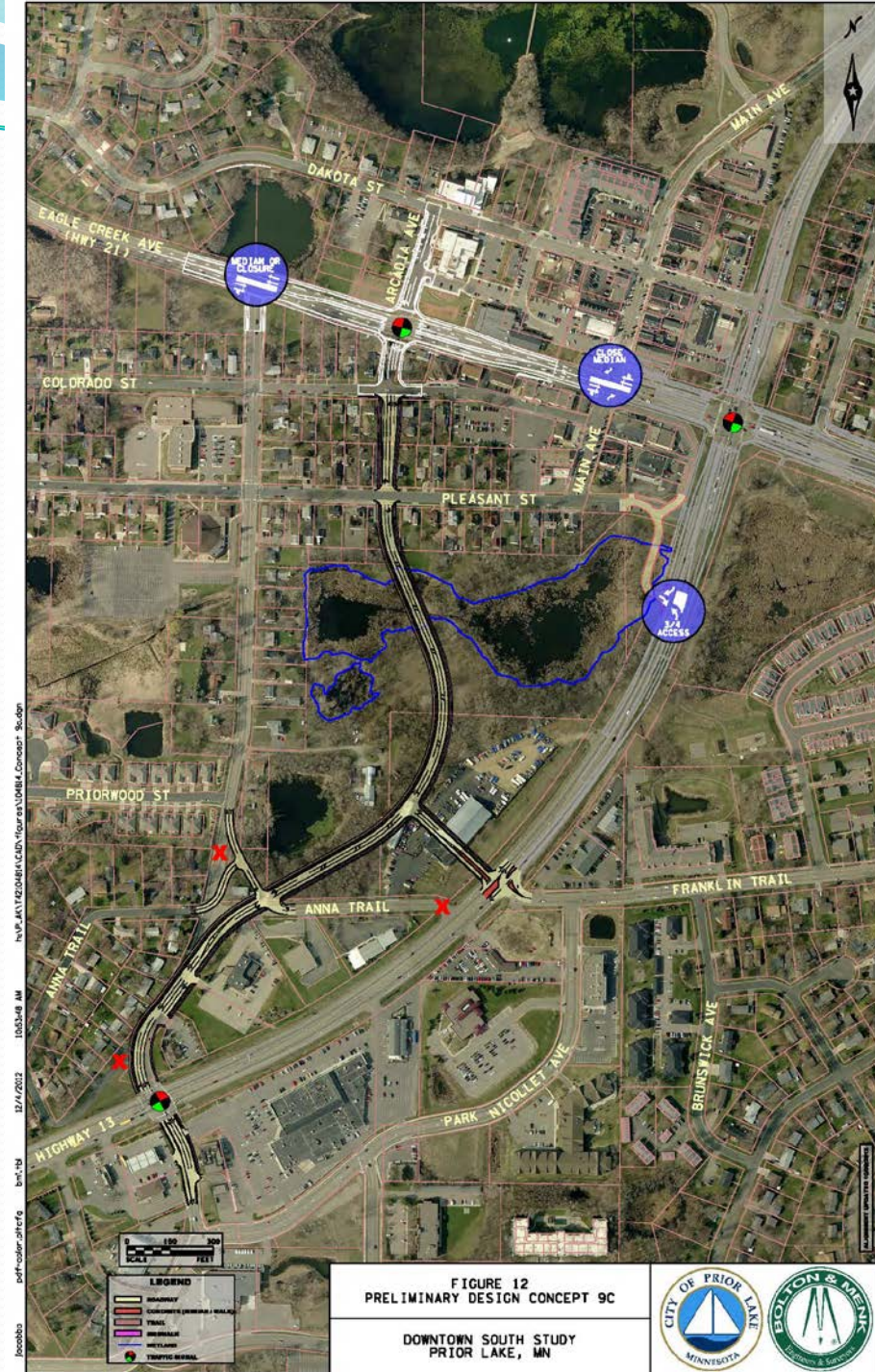






# Recommended Option

- Direct connectivity from Arcadia to Duluth and between signals
- Reduces traffic on Duluth and Colorado
- Adds pedestrian and bicycle connections to Downtown
- Can be implemented incrementally
- Provides a plan to handle future growth
- Maintains southbound TH 13 access to Franklin Trail
- Provides opportunity for sewer alignment
- Impacts fewer homes than other options
- Provides a future roadway network plan that provides developer guidance





# Long Range City

## Transportation Plan Vision

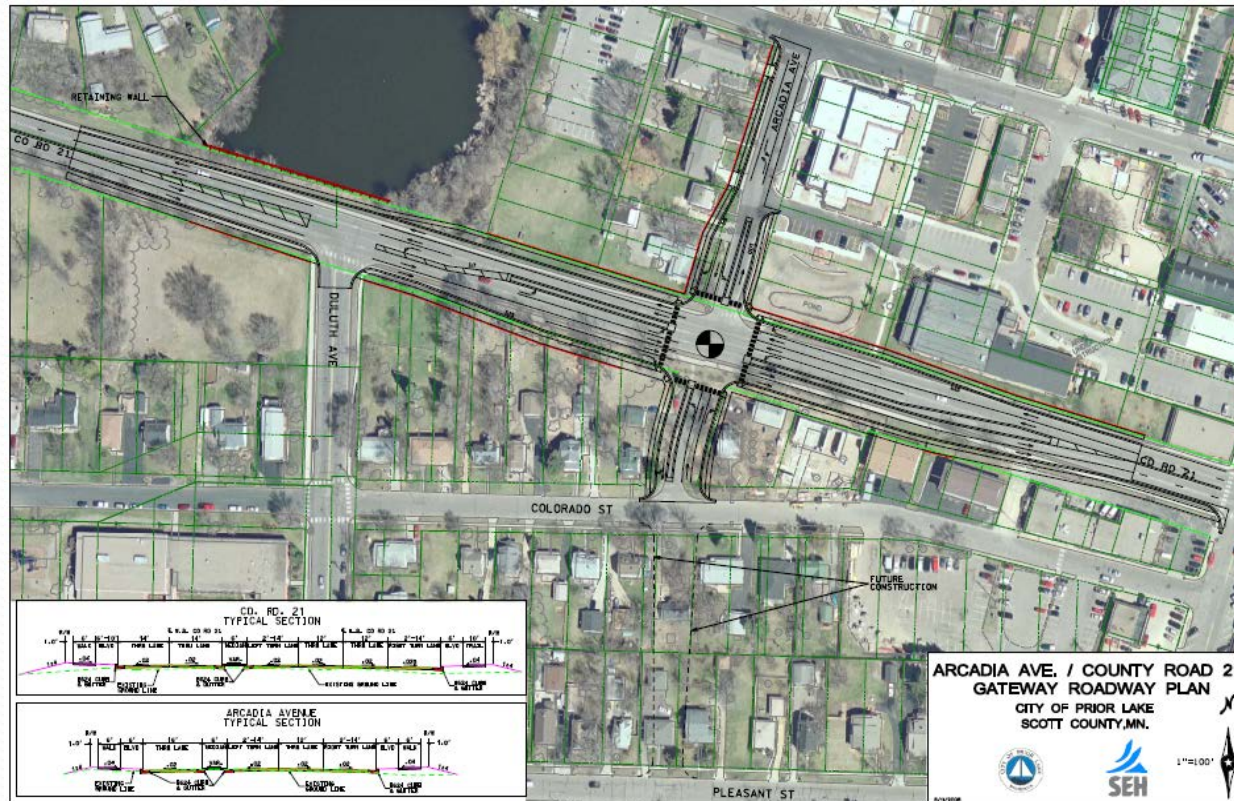
- Concept 6-Modified MNDOT would consider if Pleasant connection modified (long range)
- City Council approved a Comprehensive Plan Amendment to include roadway connection
- State Aid routes changed to include roadway extension to TH 13





# Arcadia Intersection (Signal Prep)

- City and County agree to construct Arcadia Intersection in 2012 with agreement that will be signalized when Main Stop Signs removed.



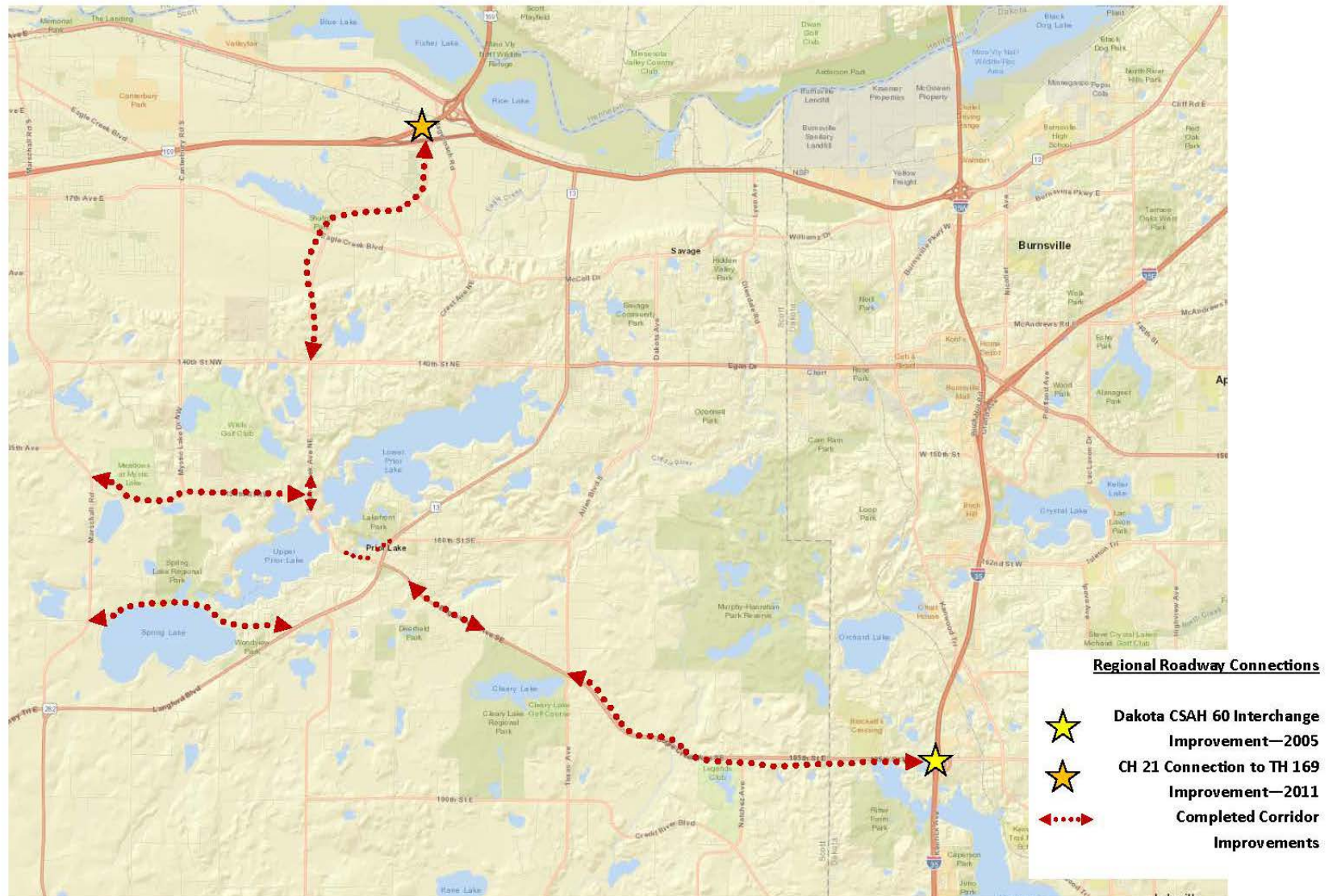


# Corridor Investment Management Strategy Solicitation (CIMS) - 2013





# Changes Since 2005 Study Adoption





# Prior Lake Statistics

- Population of the City of Prior Lake
  - 1980 Census: 7,284
  - 1990 Census: 11,482
  - 2000 Census: 15,917
  - 2010 Census: 22,796
  - 2015 State Demographer Estimate: 25,049
- Employment in the City of Prior Lake
  - 2015 MN Dept. of Employment & Economic Dev. Existing Employment:
    - 8,167 Jobs
  - Metropolitan Council 2040 Employment Estimate:
    - 8,100 Jobs



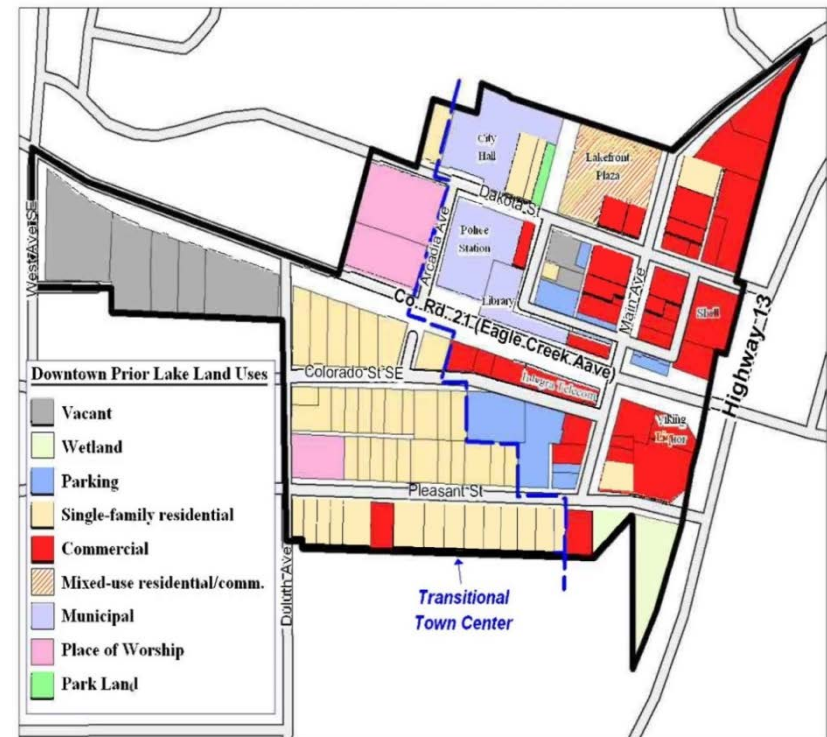
# Downtown Land Use

**Table 3**  
**Businesses by Type**  
**Downtown Prior Lake**  
**November 2010**

Business Type	Total Businesses	Total Square Feet	Average Space Size
<b>Retail</b>			
Auto Stations	1	4,000	4,000
Automotive Uses	8	22,500	2,813
Liquor Store	1	5,500	5,500
Hardware Store	1	10,600	10,600
Restaurants/Bars	6	29,100	4,850
Specialty Retail	14	32,000	2,286
<b>Subtotal</b>	<b>31</b>	<b>103,700</b>	<b>3,345</b>
<b>Services</b>			
<i>Business/Professional Services</i>			
Finance/Insurance/Real Estate	10	17,800	1,780
Other	11	14,600	1,327
<i>Personal Services</i>			
Barber/Beauty Salon/Nails	3	3,400	1,133
Medical/Dental	5	7,900	1,580
Miscellaneous	5	19,400	3,880
<b>Subtotal</b>	<b>34</b>	<b>63,100</b>	<b>1,856</b>
Other Commercial	2	23,000	11,500
Vacant	n.a.	15,700	--
City Hall	1	18,400	--
Library	1	13,000	--
Police Station	1	15,600	--
<b>Total Businesses / Space</b>	<b>67</b>	<b>205,500</b>	

Source: Maxfield Research Inc.

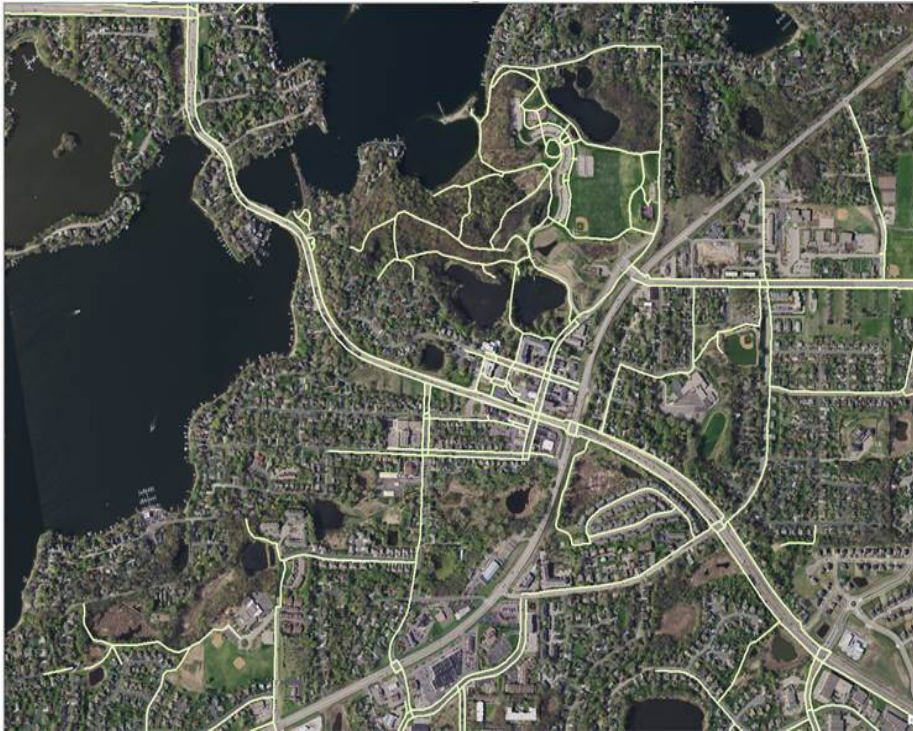
**Map 4**  
**Downtown Prior Lake Land Uses**



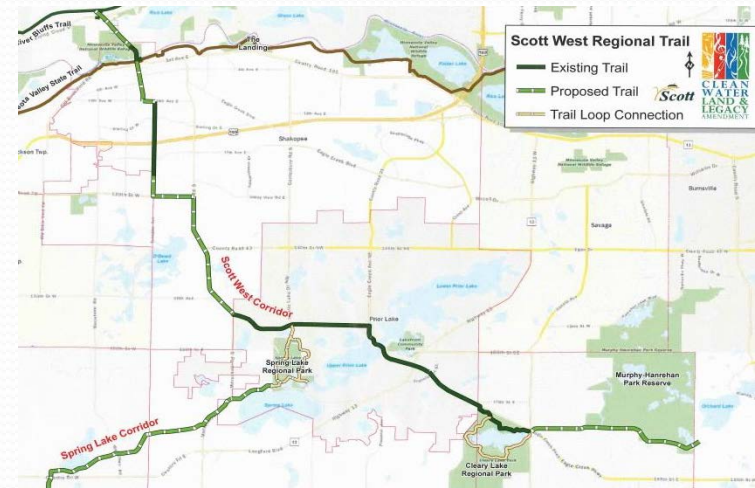


# Downtown – Pedestrian Uses and System Connections

Trail/Side walk connections in Prior Lake

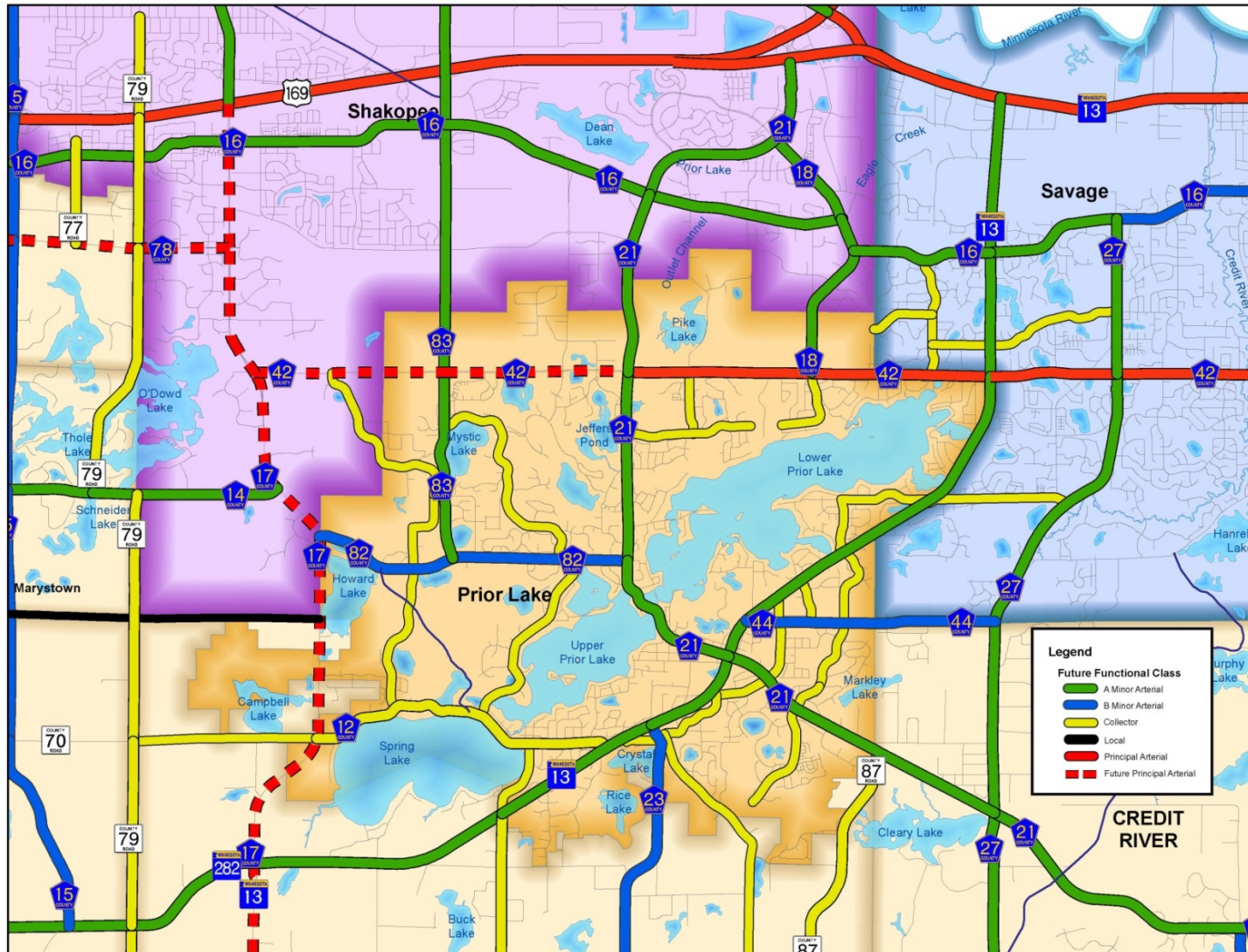


- Existing Regional Trail on CH 21 – CH 27 east to County line



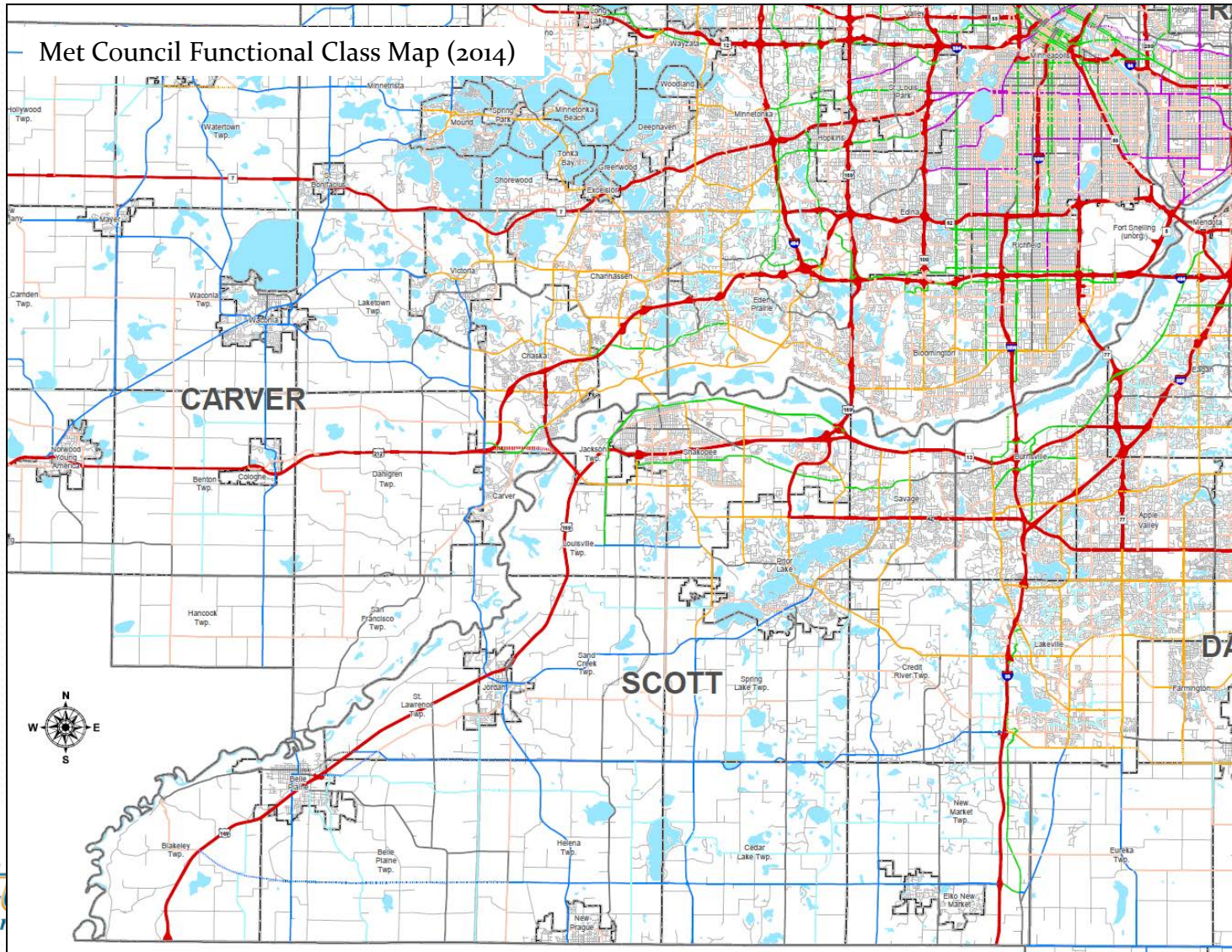


# Regional Highway System



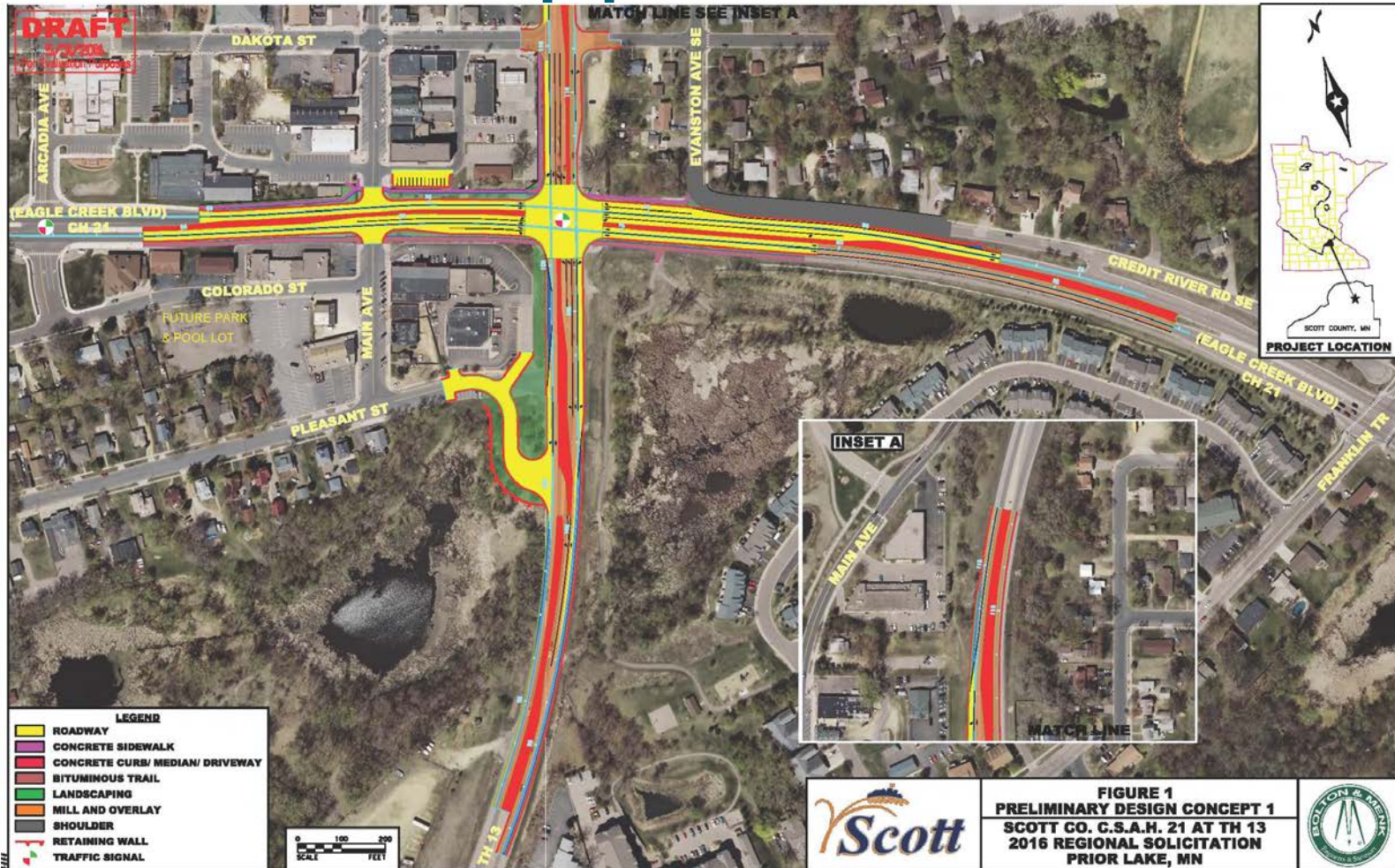


# Regional Role





# Federal STP Applications





# Preliminary Project Timeline

- History Overview Workshop: February 2017
- Project Goals/Project Direction Workshop: March 2017
- Project Open House: May 2017
- Joint City/County Workshop: July 2017
- Layout Approval: November 2017
- Final Design and Right of Way: 2018-2019
- Project Open House: February 2018
- Construction: Spring 2019



# Discussion

- Concurrence with goals
  - Safety
  - Mobility
  - Economic vitality
- Direction from the Board/Council