



Open House #3 Summary Report

APPENDIX E

Open House #3 Display Boards



Open House #3 Summary Report

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Project Purpose and Need



Purpose

Improve traffic flow and safety, accommodate high traffic volumes, and increase multi-modal travel options and connections at the US 6 and Wadsworth interchange and along Wadsworth Boulevard between 4th Avenue and 14th Avenue.

Needs

- Improve safety for motorists, pedestrians, and bicyclists
- Correct design deficiencies that contribute to safety concerns and operational inefficiencies
- Increase infrastructure capacity to meet current and future traffic volumes
- Support multi-modal connections

US 6/Wadsworth

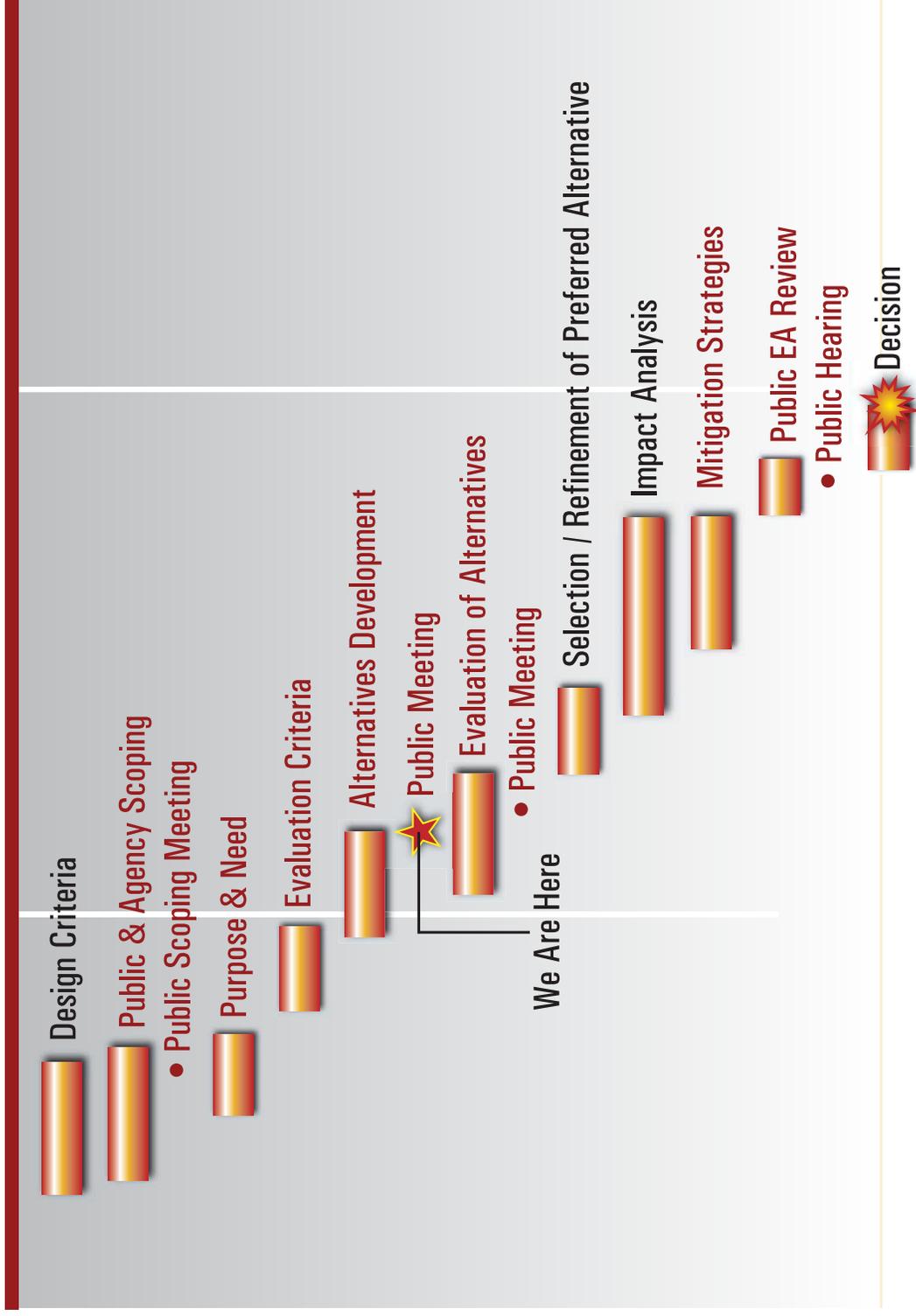


Environmental
Assessment

Key Decision Milestones

2007

2008



Vicinity Map



US 6/Wadsworth

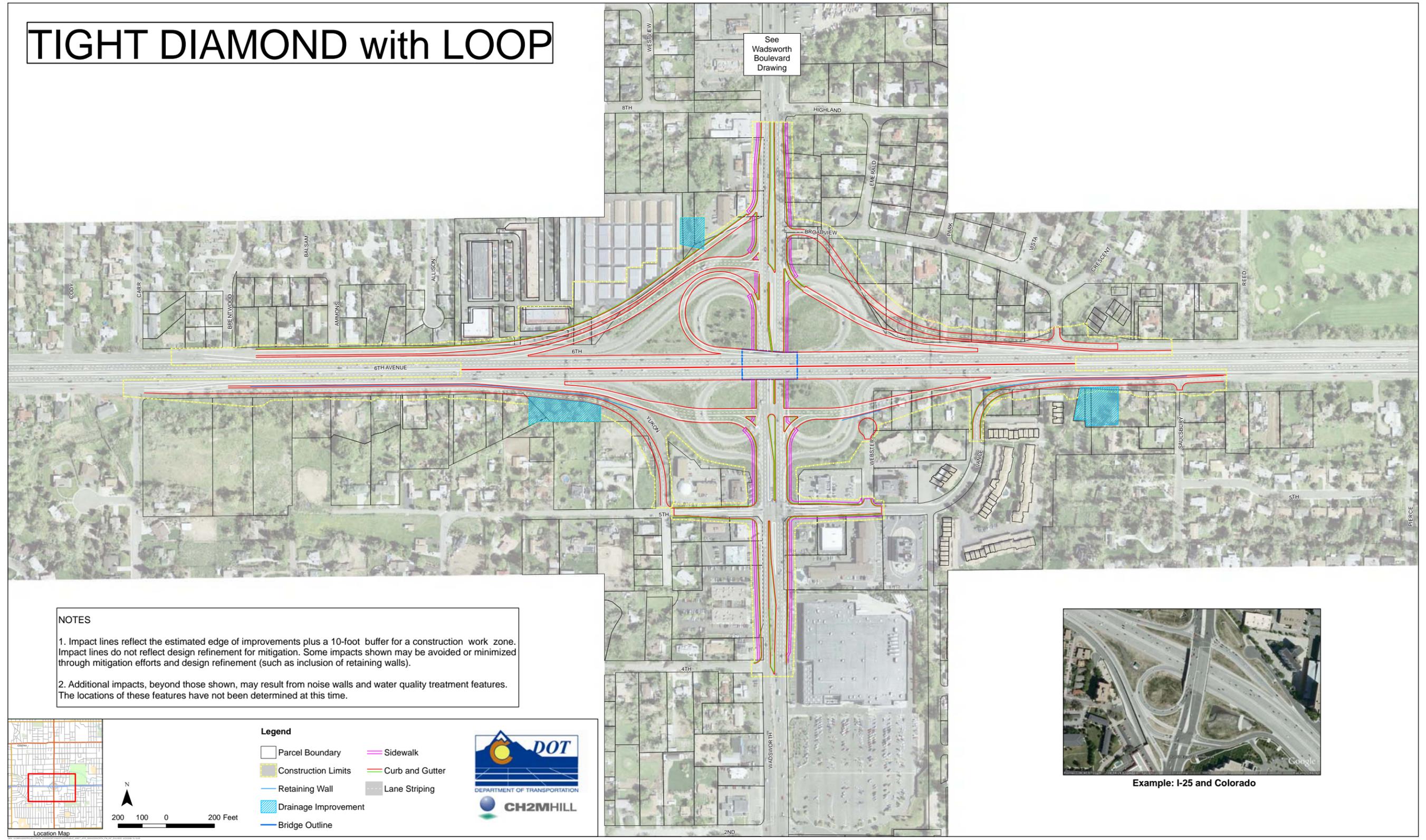


Environmental
Assessment



TIGHT DIAMOND with LOOP

See Wadsworth Boulevard Drawing



NOTES

1. Impact lines reflect the estimated edge of improvements plus a 10-foot buffer for a construction work zone. Impact lines do not reflect design refinement for mitigation. Some impacts shown may be avoided or minimized through mitigation efforts and design refinement (such as inclusion of retaining walls).
2. Additional impacts, beyond those shown, may result from noise walls and water quality treatment features. The locations of these features have not been determined at this time.



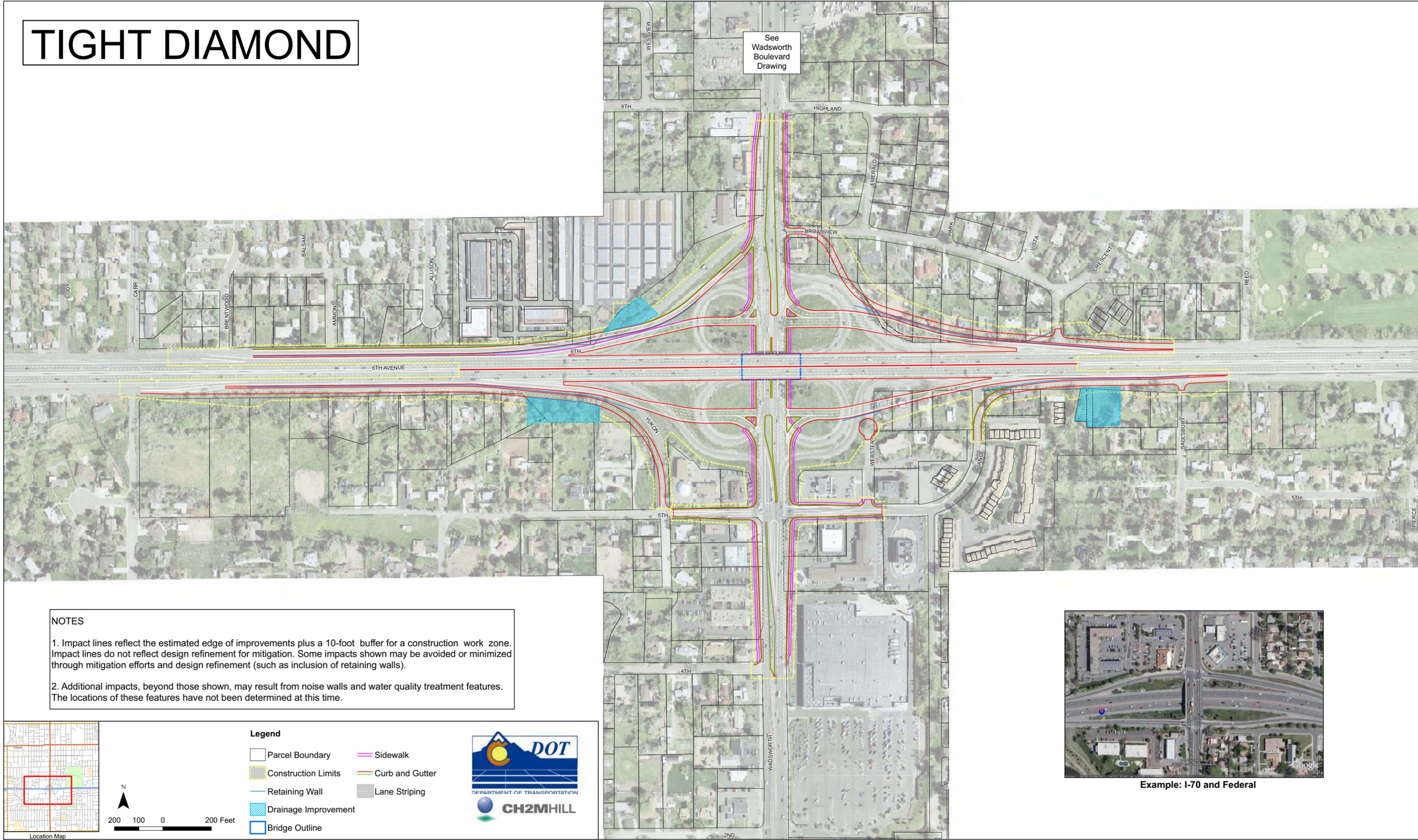
- Legend**
- Parcel Boundary
 - Construction Limits
 - Retaining Wall
 - Drainage Improvement
 - Bridge Outline
 - Sidewalk
 - Curb and Gutter
 - Lane Striping



Example: I-25 and Colorado

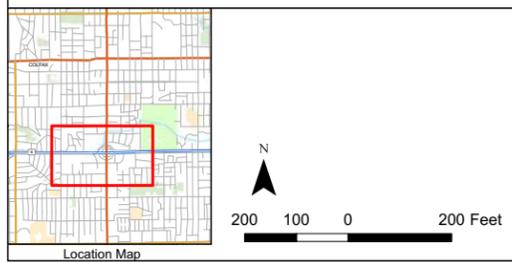
TIGHT DIAMOND

See Wadsworth Boulevard Drawing



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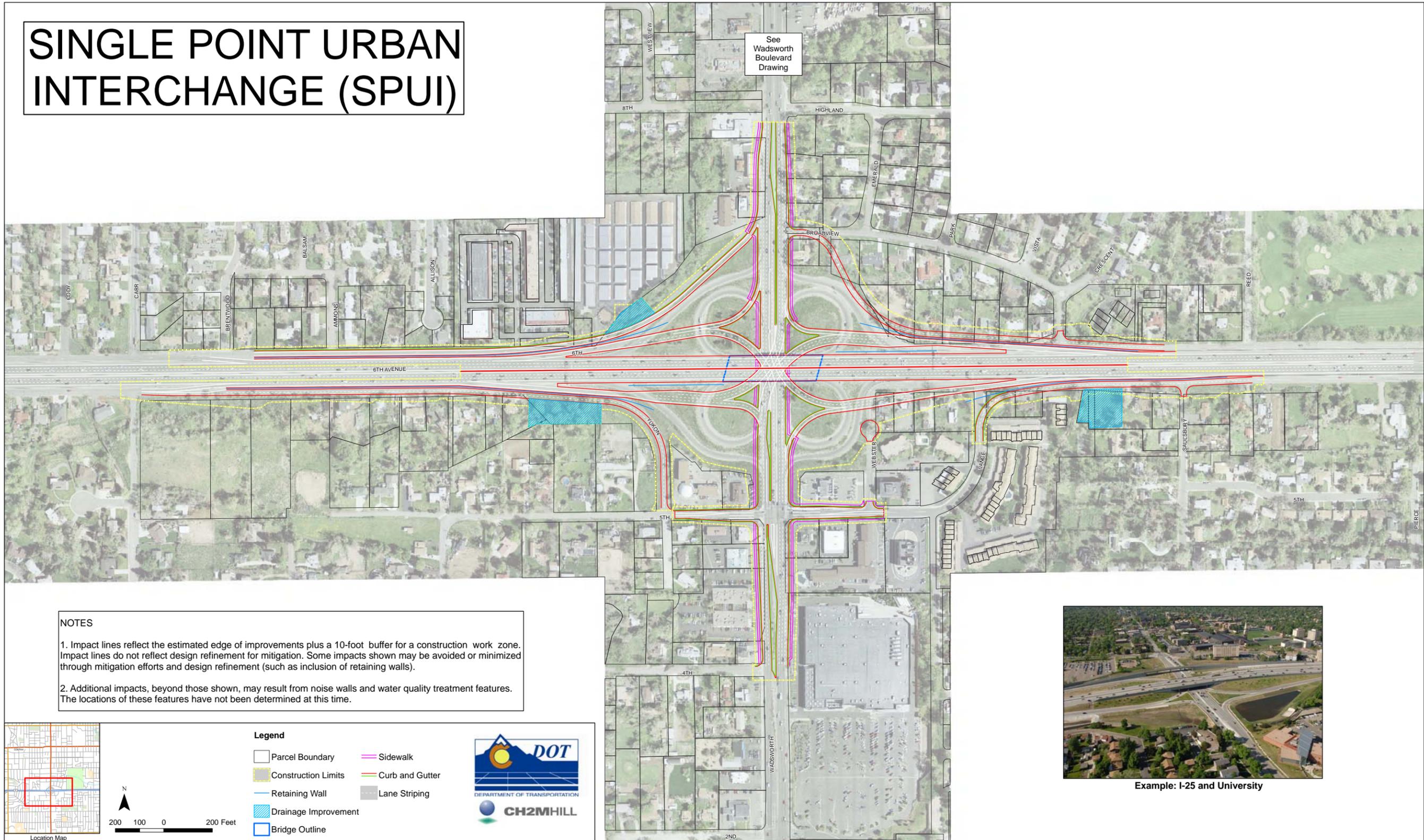
- Legend**
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Example: I-70 and Federal

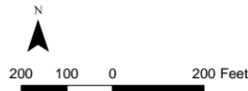
SINGLE POINT URBAN INTERCHANGE (SPUI)

See Wadsworth Boulevard Drawing



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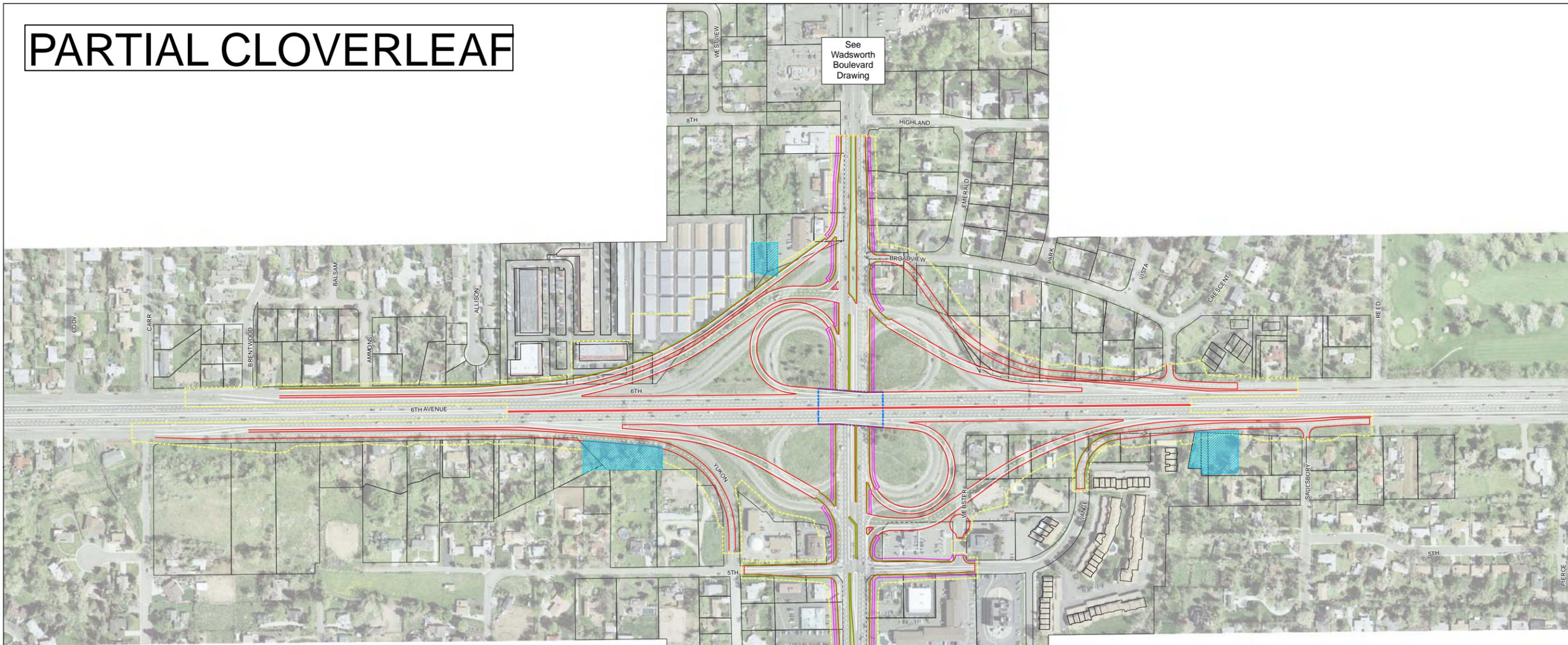
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 - Lane Striping



Example: I-25 and University

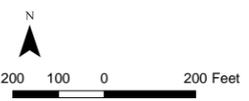
PARTIAL CLOVERLEAF

See Wadsworth Boulevard Drawing



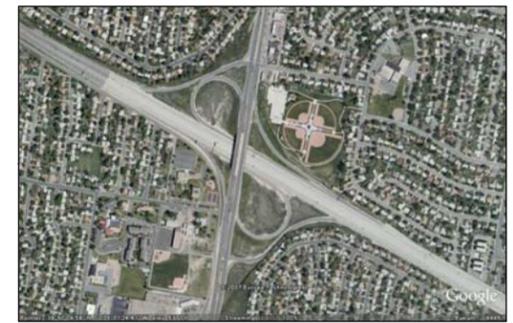
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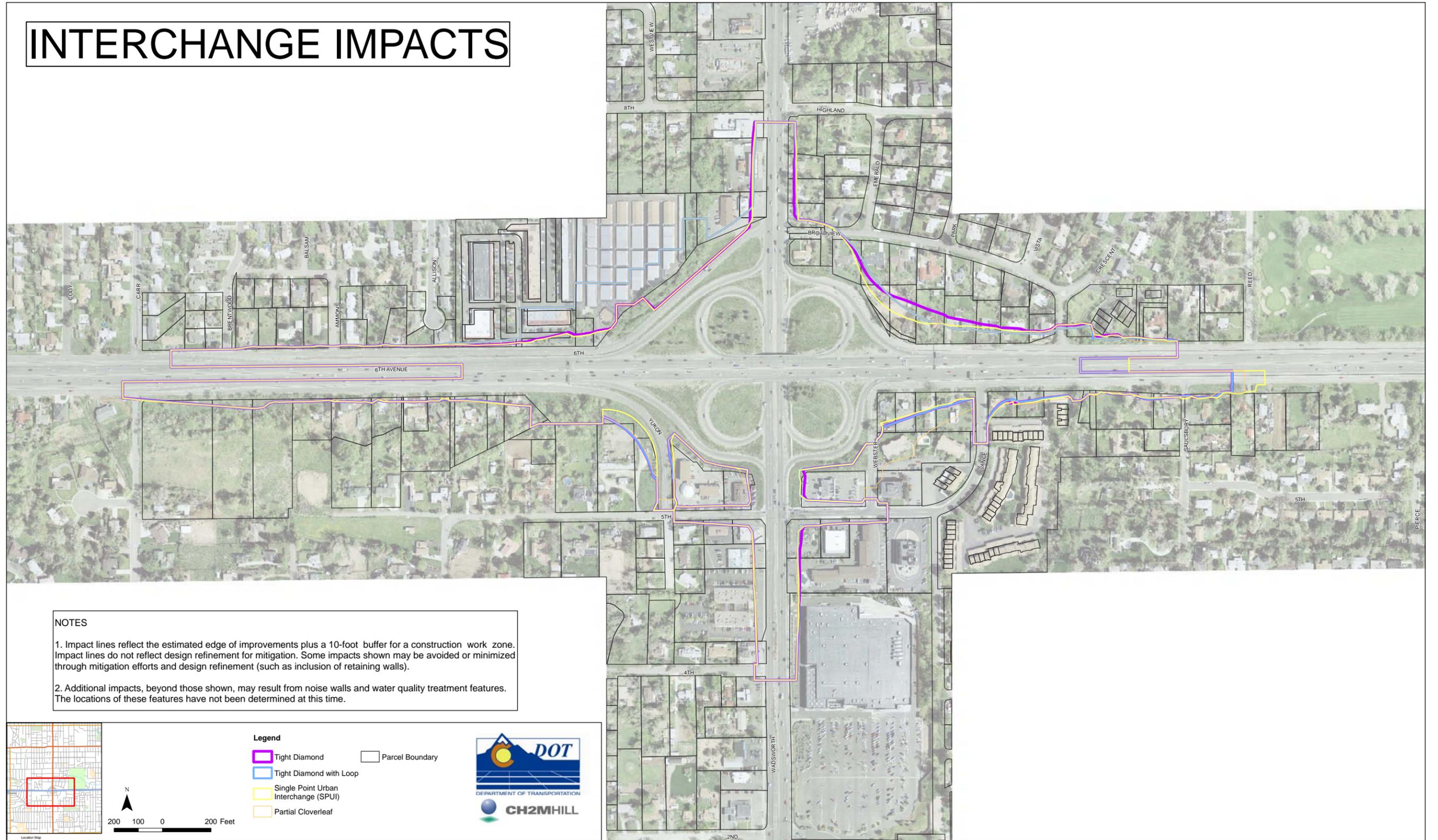
Legend

Parcel Boundary	Sidewalk
Construction Limits	Curb and Gutter
Retaining Wall	Lane Striping
Drainage Improvements	Bridge Outline



Example: US-36 and Federal

INTERCHANGE IMPACTS



NOTES

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- Legend**
- Tight Diamond
 - Tight Diamond with Loop
 - Single Point Urban Interchange (SPUI)
 - Partial Cloverleaf
 - Parcel Boundary



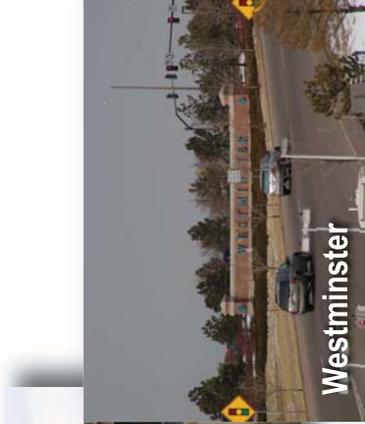
Lakewood's Vision - Wadsworth Boulevard Interchange

Gateway to Lakewood

Bridge Aesthetics



- Cohesive design
- Multi-colored, natural materials
- Enhanced features such as ornamental signage and lighting

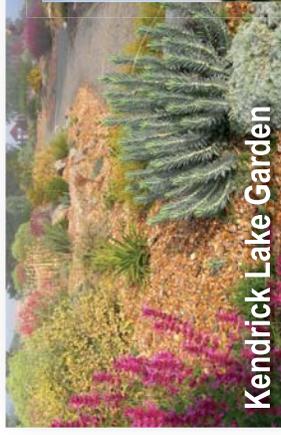


Walls and Slope Paving Aesthetics



- Cohesive design
- Custom relief pattern/colors
- Natural appearance
- Stepped with landscaping if more than 6 feet in height

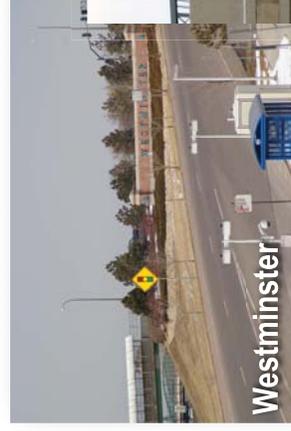
Plants/Landscaping



- Cohesive design
- Varied plant and rock materials
- Low maintenance
- Low water (after established)
- Aesthetically pleasing



Special Features



- Prominent entry to Lakewood
- Special features such as monuments, ornamental lighting, or public art



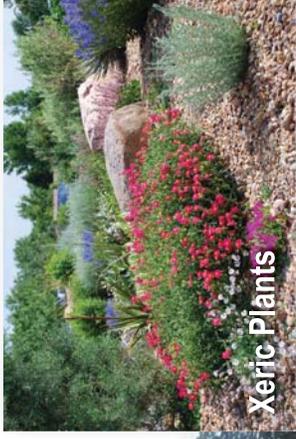
Lakewood's Vision - Wadsworth Boulevard

Attractive medians and roadway landscaping

Median Landscaping and Design



Lakewood
(Wadsworth Blvd.)



Xeric Plants

16-foot raised bed planter

- Irrigation and subdrain system
- Accent boulders
- Backfill
- Xeric plants
- Median mulch



Lakewood
(Jewell Avenue)

Side of the Road Landscaping



Lakewood
(Wadsworth Blvd.)



Lakewood
(Belmar)



Boulder

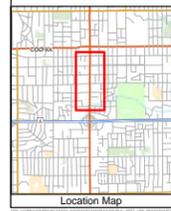
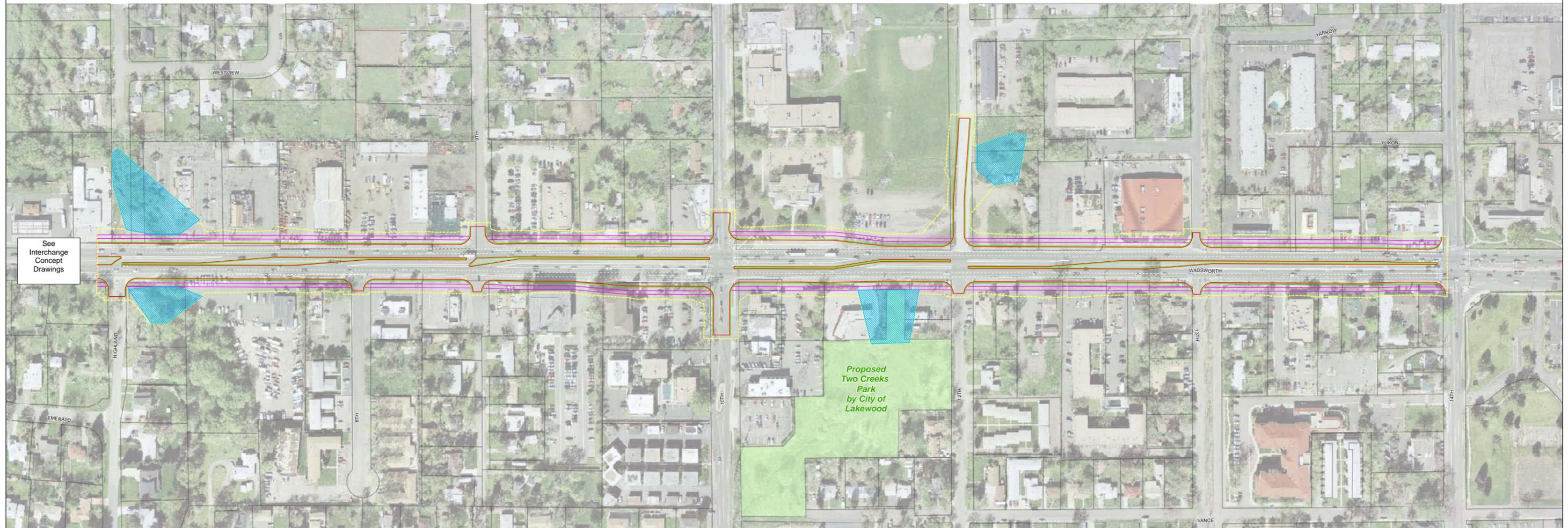
Minimum 10-foot landscaped tree lawn

- Columnar trees
- Salt/chemical-tolerant ground cover

Attractive bus shelters



WADSWORTH BOULEVARD



- Legend**
- Parcel Boundary
 - Parks
 - Drainage Improvement
 - Construction Limits
 - Sidewalk
 - Curb and Gutter
 - Lane Striping

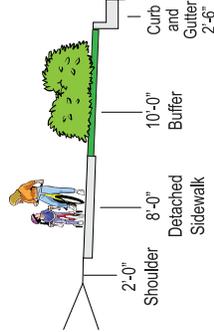
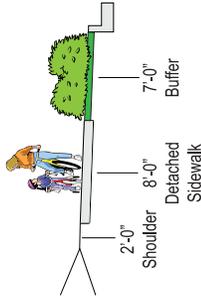
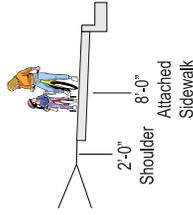


NOTES

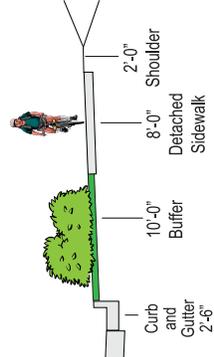
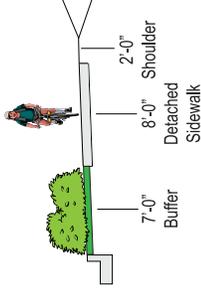
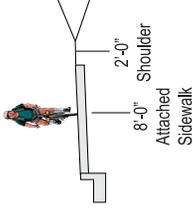
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Wadsworth Boulevard Preferred Alternative Cross Section

Side-of-Road Options



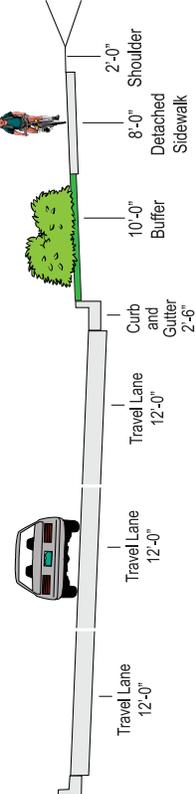
Side-of-Road Options



Other Mitigation Options

- 11'-0" travel lanes
- Alignment shifts
- 18'-0" median

23'-0" Raised Median
140'-0" Total Width



Historic Properties

Section 106 of the National Historic Preservation Act of 1966 and Section 4(f) of the Department of Transportation Act of 1966 require FHWA and CDOT to consider and mitigate effects of their projects on historic properties.

- US 6 and Wadsworth project area includes:
- Nine individual potentially historic properties
 - Two potentially historic districts

Properties and districts embody distinctive architectural characteristics of their period of construction.

Historic property designation does not restrict private property owners from developing or altering their properties.



1 1296 Wadsworth Blvd.



4 Jefferson County Open School District



8 7395 W. 6th Ave./Frontage Road



2 1230 Wadsworth Blvd.



5 7558 9th Avenue



9 7423 W. 6th Ave./Frontage Road



3 1215 Wadsworth Blvd.



6 700 Wadsworth Blvd.



10 7400 6th Ave./Frontage Road



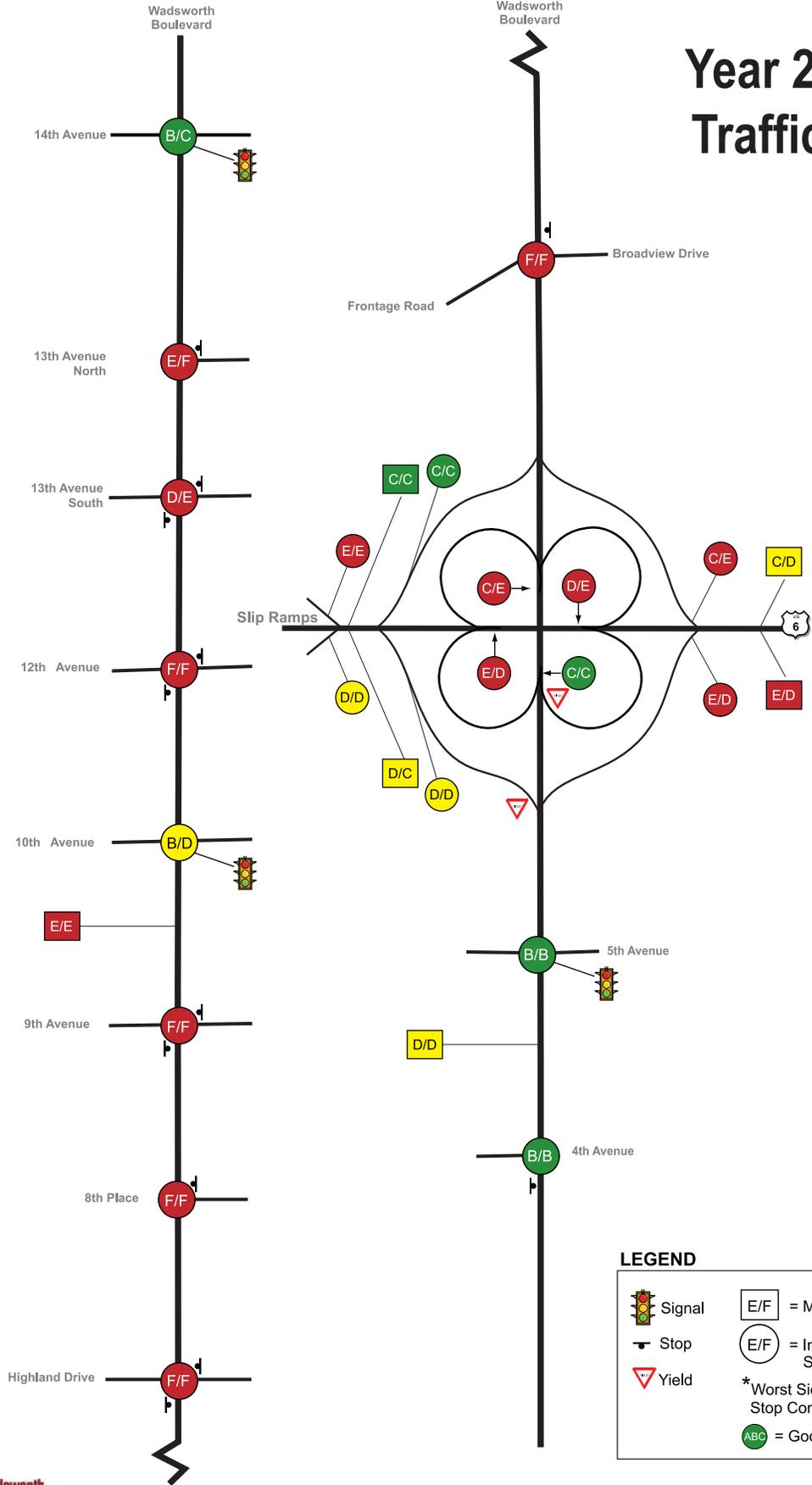
7 7433 6th Ave./ Frontage Road



11 401 Wadsworth Blvd.



Year 2007 Existing Traffic Conditions



North

LEGEND

	Signal		= Mainline Level of Service AM/PM
	Stop		= Intersection, Ramp, or Weave Level of Service AM/PM*
	Yield	*Worst Side Street Approach Reported for Two Way Stop Control	
	ABC = Good		D = Fair
	EF = Poor		

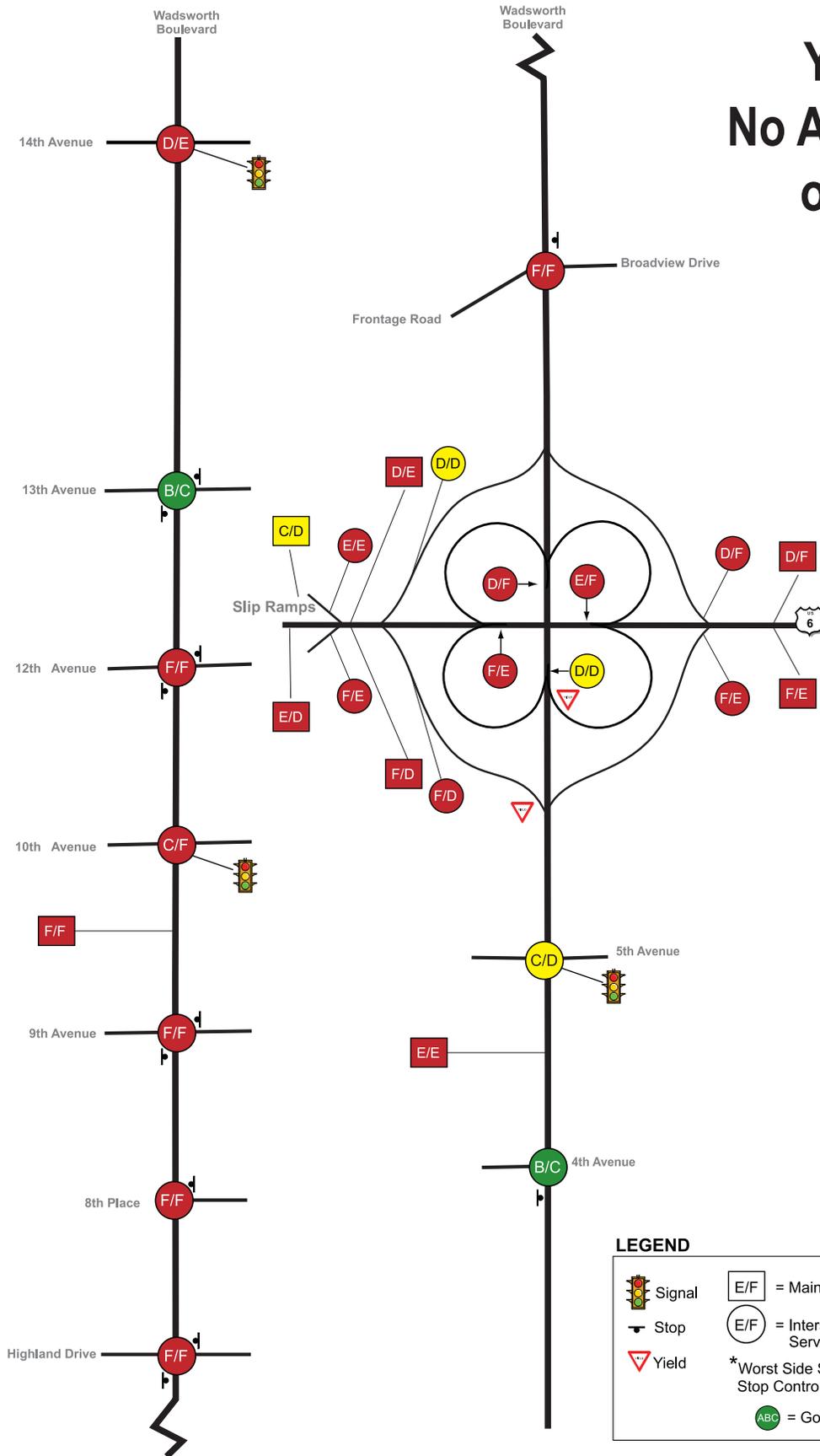
US 6/Wadsworth



Environmental Assessment



Year 2035 No Action Levels of Service



Not to Scale

LEGEND

	Signal		E/F = Mainline Level of Service AM/PM
	Stop		E/F = Intersection, Ramp, or Weave Level of Service AM/PM*
	Yield		ABC = Good
			D = Fair
			EF = Poor

*Worst Side Street Approach Reported for Two Way Stop Control

US 6/Wadsworth



Environmental Assessment



LOS - Levels of Service

LOS is a qualitative measure describing traffic operational conditions. LOS is based on speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience. In addition to travel volume, roadway LOS is affected by number of access points, lane width, number of lanes and percentage of large vehicles. The conditions characterizing roadway LOS are:



- Best operating condition considered free-flow
- Users are unaffected by presence of others



- Reasonably free-flowing conditions
- Some influence by others



- Constrained constant flow below speed limits
- Additional attention required by drivers to maintain safe operations
- Comfort levels of driver decline noticeably



- Approaching unstable flow
- High passing demand, limited passing capacity
- An acceptable condition for arterial and collector roadways in the community



- Unstable flow near capacity
- LOS E often quickly changes to LOS F because of disturbances in traffic flow



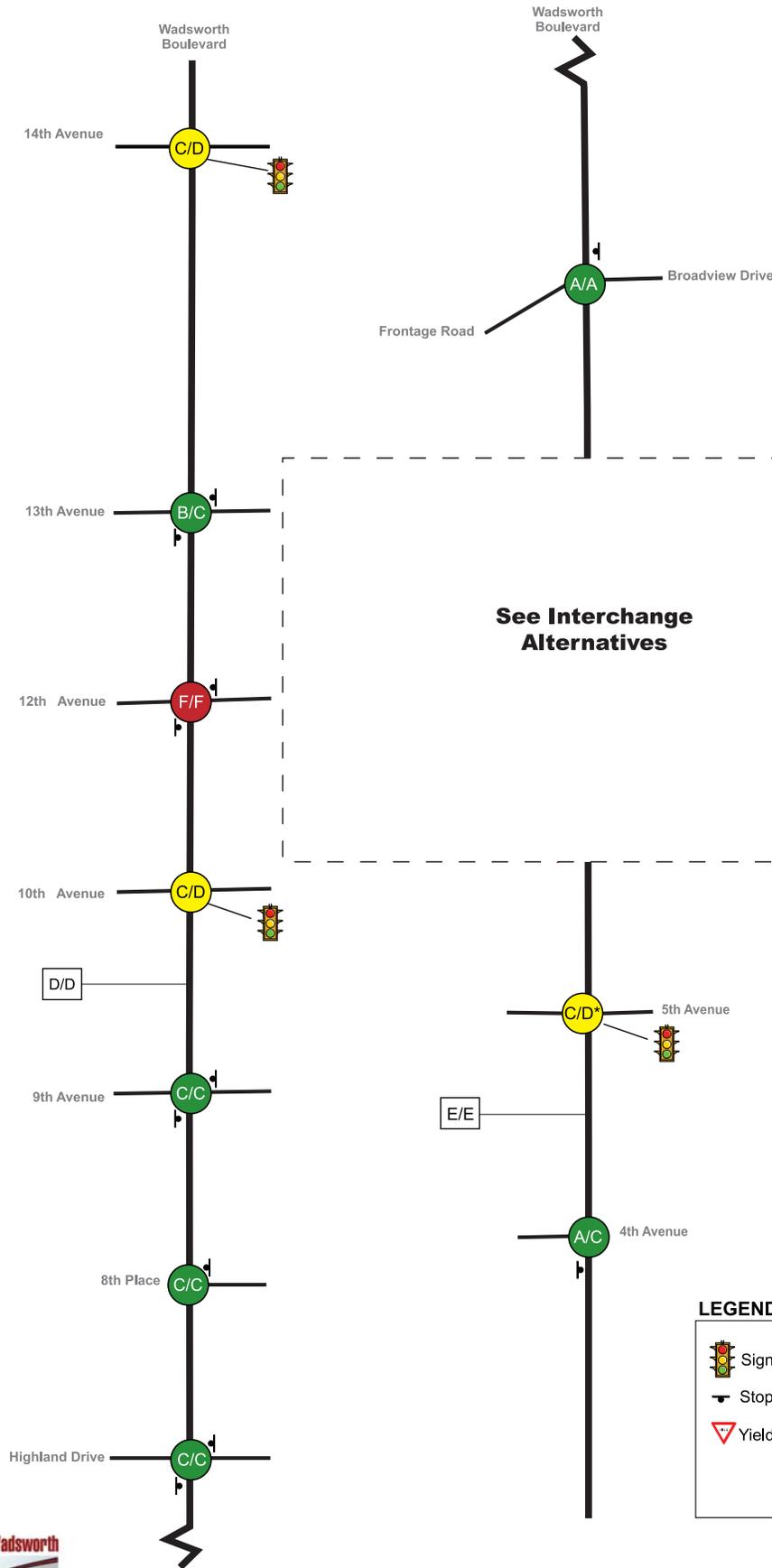
- Worst conditions with heavily congested flow, traffic demand exceeding capacity
- Poor travel time, low comfort and convenience

US 6/Wadsworth



Environmental
Assessment

Year 2035 Action Levels of Service on Wadsworth



LEGEND

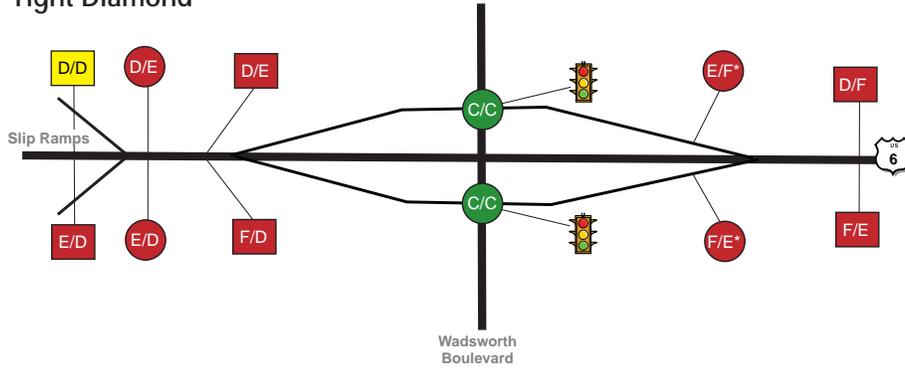
- Signal
- Stop
- Yield
- E/F = Mainline Level of Service AM/PM
- E/F = Intersection, Ramp, or Weave Level of Service AM/PM*
- *LOS B/C for Tight Diamond with Loop and Partial Cloverleaf Alternatives
- ABC = Good
- D = Fair
- EF = Poor



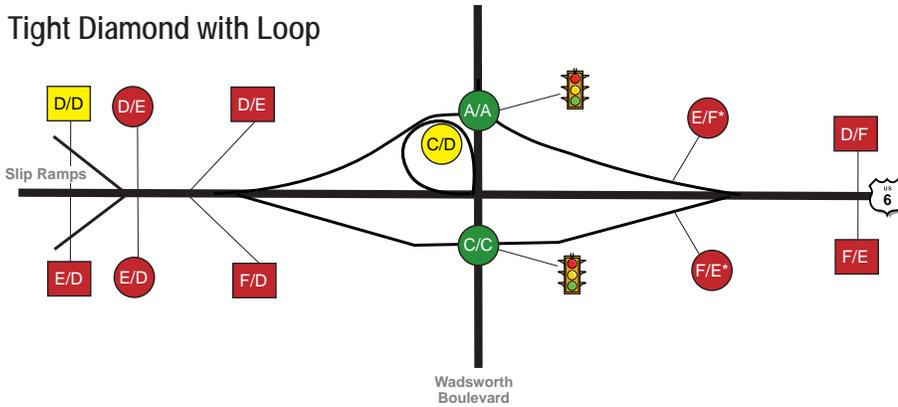
Not to Scale

Year 2035 Action Levels of Service at Interchanges

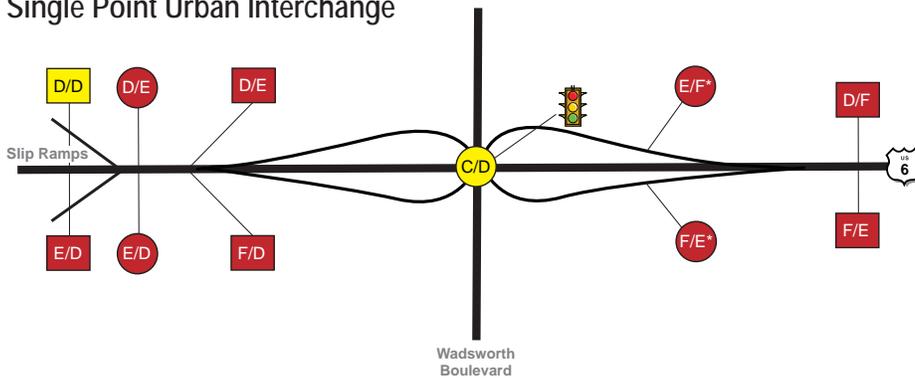
Tight Diamond



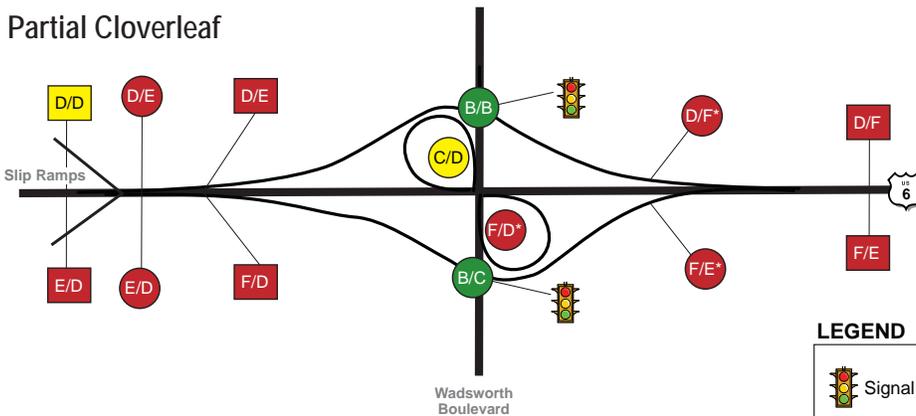
Tight Diamond with Loop



Single Point Urban Interchange



Partial Cloverleaf



North

Not to Scale

LEGEND



Signal

E/F = Mainline Level of Service AM/PM

E/F = Intersection, Ramp, or Weave Level of Service AM/PM*

*LOS F Due to Freeway Conditions

● ABC = Good ● D = Fair ● EF = Poor

US 6/Wadsworth



Environmental
Assessment



Water Quality

Dry Detention Pond



Description:

A shallow depression designed to treat a specific volume of runoff. The stormwater runoff is temporarily stored in the pond and drawn down over a period of time (minimum drain time is 40 hours) through an outlet structure or spillway.

Pros

- Efficient pollutant removal for good range of suspended solids and heavy metals.

Cons

- Requires a large amount of land to configure the pond geometry correctly.
- May become an eyesore, and standing water may be present sometimes.
- May require fencing around the perimeter.
- Must be located near project stormwater outfalls.

Constructed Wetlands



Description:

Artificial wetlands constructed to simulate natural biological and chemical processes to treat runoff.

Pros

- Efficient filters for suspended solids, heavy metals, and organic matter, and are effective transformers of nitrogen.

Cons

- Requires a constant base flow of water.
- Pollutant removal efficiencies vary significantly depending on site design and conditions.
- Requires large, shallow, flat locations.
- Sediment pond or forebay is required.
- Requires monthly maintenance until vegetation is established. Inspection and nuisance species removal must be performed annually.
- May take longer than one season to establish vegetation
- May require fencing around the perimeter.
- Must be located near project stormwater outfalls.

Vegetated Swales



Description:

Open channel drainage way with grass or other vegetation to provide conveyance and to filter pollutants.

Pros

- Enhance stormwater quality and reduce peak runoff.
- Swales without an underdrain system have shown water quality benefits and are endorsed by FHWA for urban applications.

Cons

- Design flows may limit effectiveness.
- Dry swales with an underdrain system are susceptible to clogging.
- Requires the establishment of vegetation; temporary irrigation may be required, and CDOT does not typically irrigate.

Catch Basin Inserts



Description:

Hang from the opening of a curb inlet or below the grate of an inlet. Designed to capture sediment and other debris.

Pros

- Best suited as a pretreatment for sediment and debris removal before flows are conveyed to downstream flows.

Cons

- Frequent maintenance of inserts (every two to three major storms) may not be possible.

Subsurface Sand Filter



Description:

Underground concrete vault designed with distinct chambers designed for various levels of treatment. Layers of sand are used to filter stormwater runoff.

Pros

- Useful in space-limited areas.
- Most effective in treating runoff from small storms or early stages of larger storms.
- Less effect to surface land use.

Cons

- Subject to clogging if moderate to high levels of silts and clays flow into facility.
- Cannot be used while construction is in progress.
- Further evaluation would be necessary to consider for space limited locations in Colorado.

Underground Systems



Description:

Premanufactured stormwater treatment devices designed to be installed underground. Use vortex-motion, particulate setting, and/or filtration treatment mechanisms.

Pros

- Useful in space-limited areas.
- Internal bypass system built in (no pretreatment required).
- Can be used in a treatment train with other systems.
- Less visual impact to existing corridor.
- Less effect to surface land use.

Cons

- Can not treat large drainage areas.
- Require a vacuum truck to remove accumulated sediment.
- Frequent maintenance and/ or replacement of filters may be needed.
- Limited long-term monitoring data. More monitoring and performance data may need to be considered to determine suitability for CDOT projects.