

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
- Improve operational efficiency of the interchange and on Wadsworth
- Meet current and future traffic demands
- Support multi-modal connections

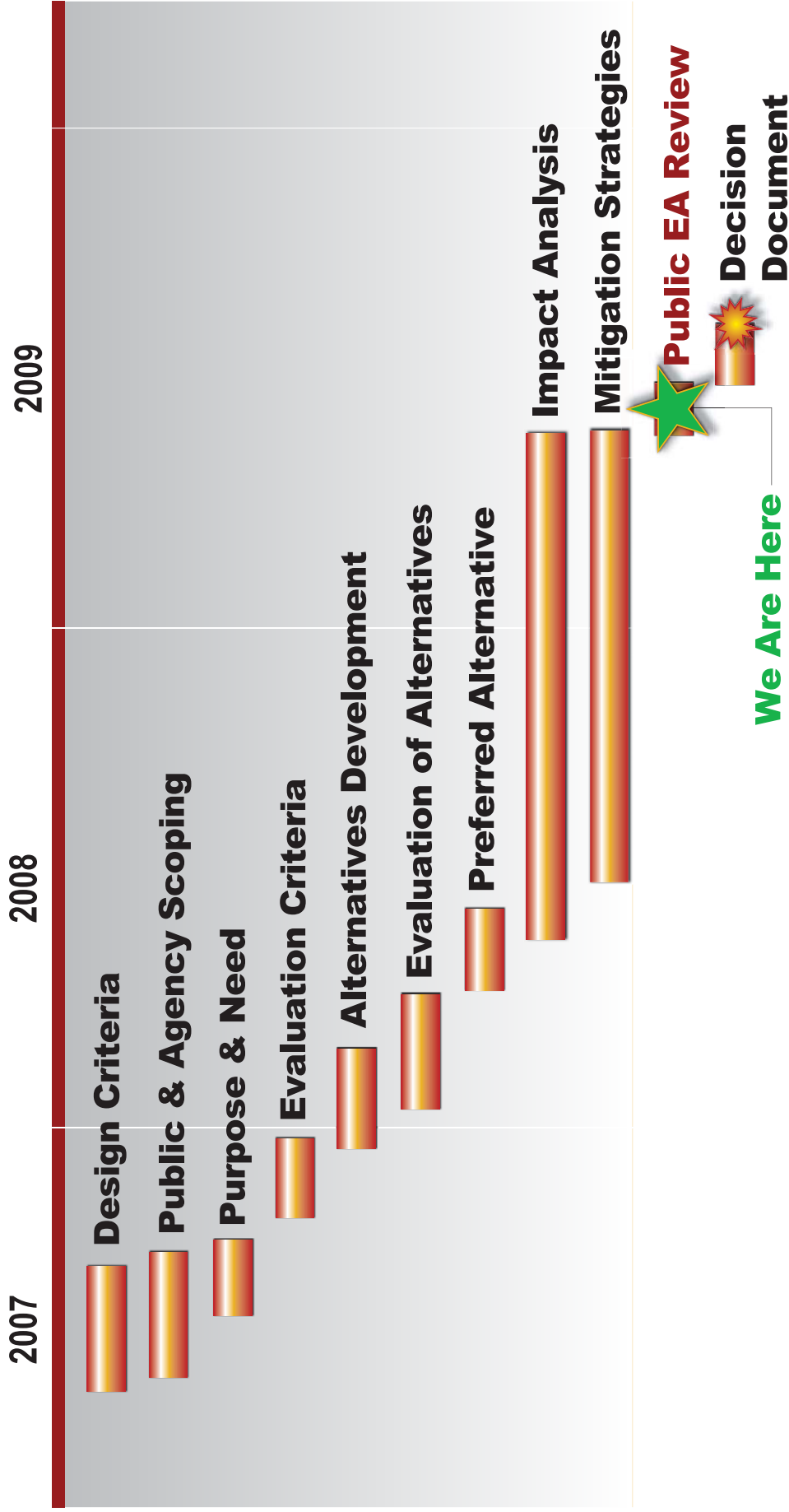


US 6/Wadsworth



Environmental
Assessment

Key Project Milestones

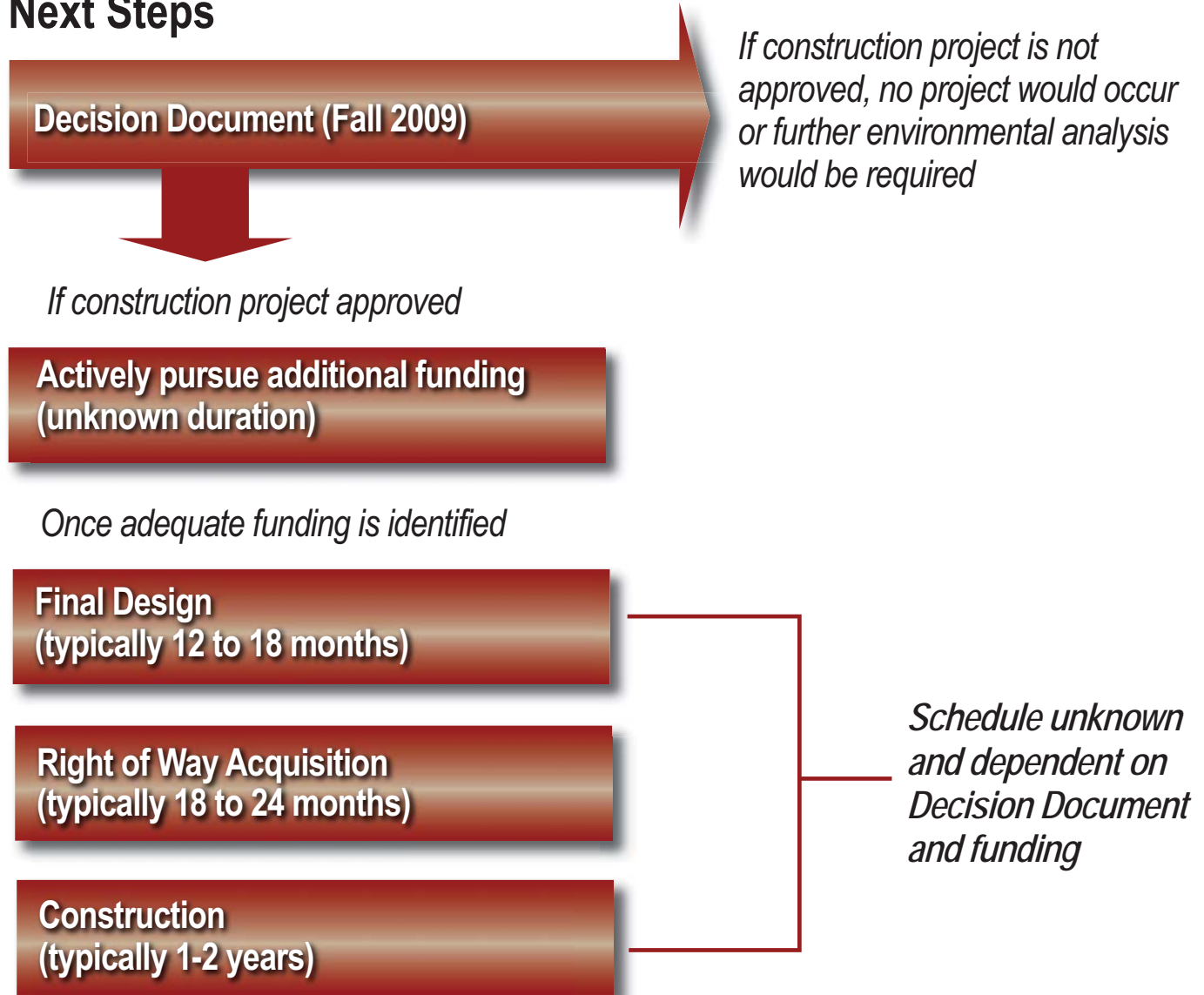


Funding and Next Steps

Costs and Funding

- Project cost estimate: \$100 million (year 2010\$)
- Planned funding: \$77 million (year 2010\$)
- CDOT and Lakewood actively pursuing additional funding sources

Next Steps



Proposed US 6/Wadsworth Interchange

NORTHWEST QUADRANT

Interchange

- 1 Reconstructed loop off-ramp from westbound US 6 to southbound Wadsworth.
- 2 A grade-separated or at-grade pedestrian crossing at on-ramp and loop ramp will be determined at final design.
- 3 New longer on-ramp from northbound and southbound Wadsworth to westbound US 6 provides adequate acceleration and merge distances for vehicles entering US 6.
- 4 Continuous lane on US 6 between on-ramp and Carr St. off-ramp provides safer merging conditions.

Frontage Road

- 5 Frontage road access is shifted north and changed to two-way traffic between the 6th Ave. Business Center and Wadsworth.
- 6 Channel improvements to Lakewood Gulch to reduce flooding of Wadsworth.

NORTHEAST QUADRANT

Interchange

- 10 New longer off-ramp from westbound US 6 to northbound Wadsworth provides adequate deceleration and vehicle queue distances for vehicles accessing Wadsworth. Free flow movement onto Wadsworth.

Frontage Road

- 11 Frontage road is reconfigured to provide access directly to Wadsworth. Provides two-way operation that reduces neighborhood cut-through traffic.
- 12 New noise walls next to the reconfigured frontage road adjacent to Green Acres neighborhood (in addition to new and reconstructed noise walls along US 6).



SOUTHWEST QUADRANT

Interchange

- 7 Continuous lane on US 6 between Carr St. on-ramp and Wadsworth off-ramp provides safer merging conditions.
- 8 New longer off-ramp from eastbound US 6 to northbound and southbound Wadsworth feeds into a multi-lane intersection that accommodates expected vehicle queues. Exiting vehicles wanting to travel east at the 5th Ave. intersection use the signalized intersection to make a hard right and vehicles destined farther south can use the adjacent right-turn yield lane to merge onto southbound Wadsworth.

Frontage Road

- 9 Frontage road remains one-way and continues to connect to 5th Ave. at Yukon St.

SOUTHEAST QUADRANT

Interchange

- 13 New longer on-ramp from northbound and southbound Wadsworth to eastbound US 6 provides adequate acceleration and merge distance for vehicles entering US 6.

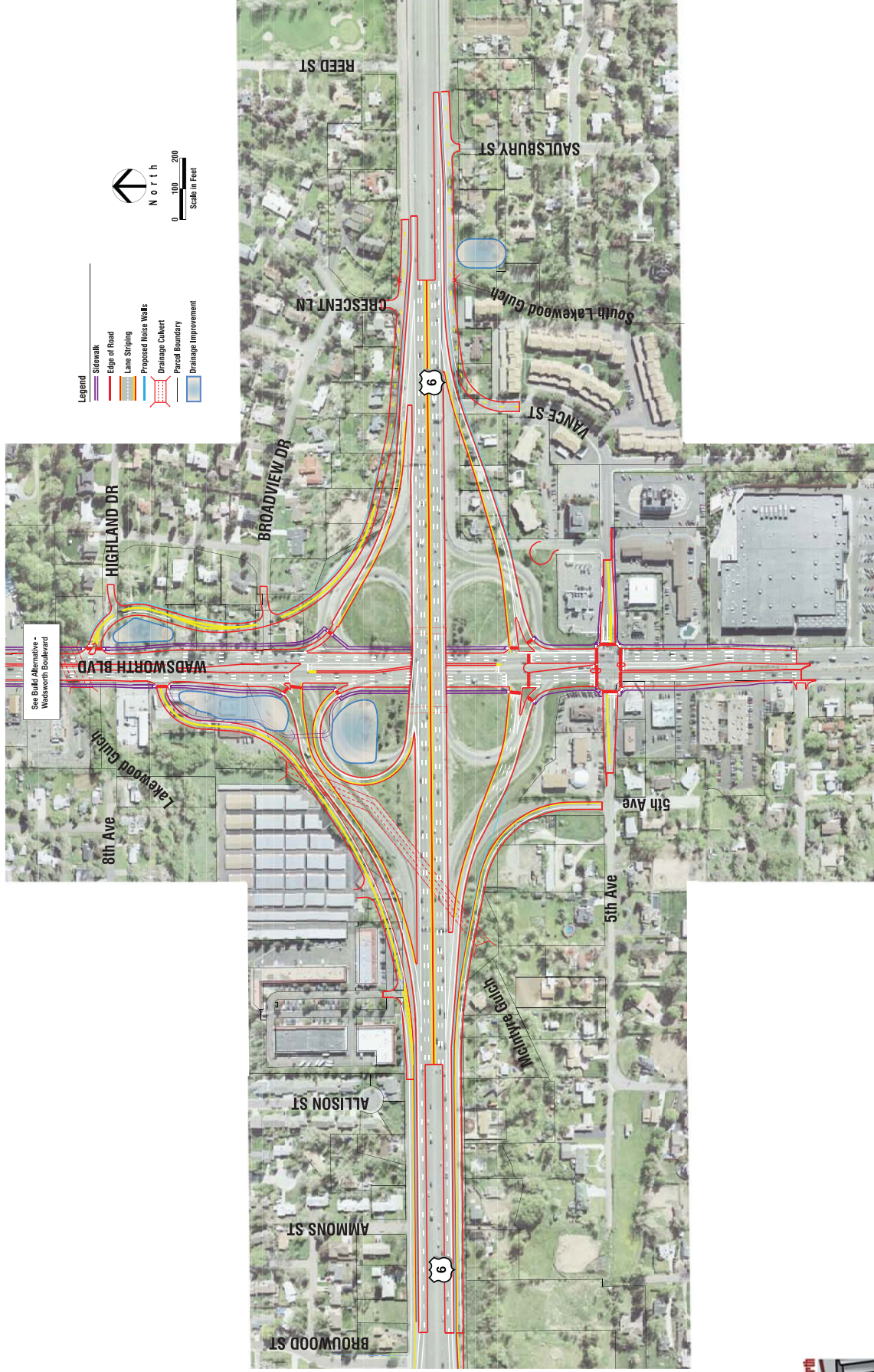
Frontage Road

- 14 Frontage road remains two-way and connects to 5th Ave. on Vance St. instead of Webster St.

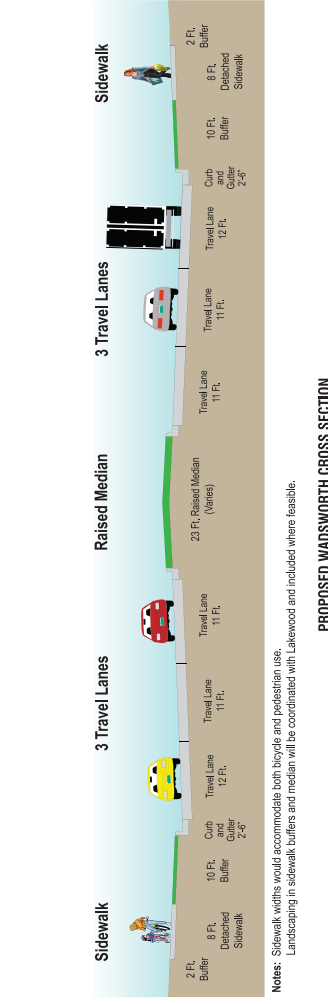
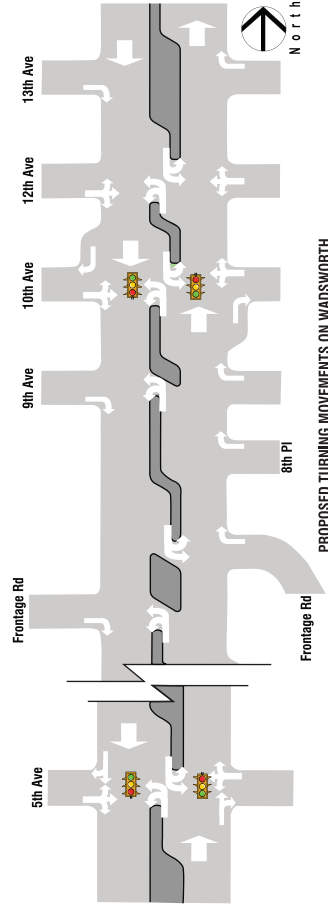
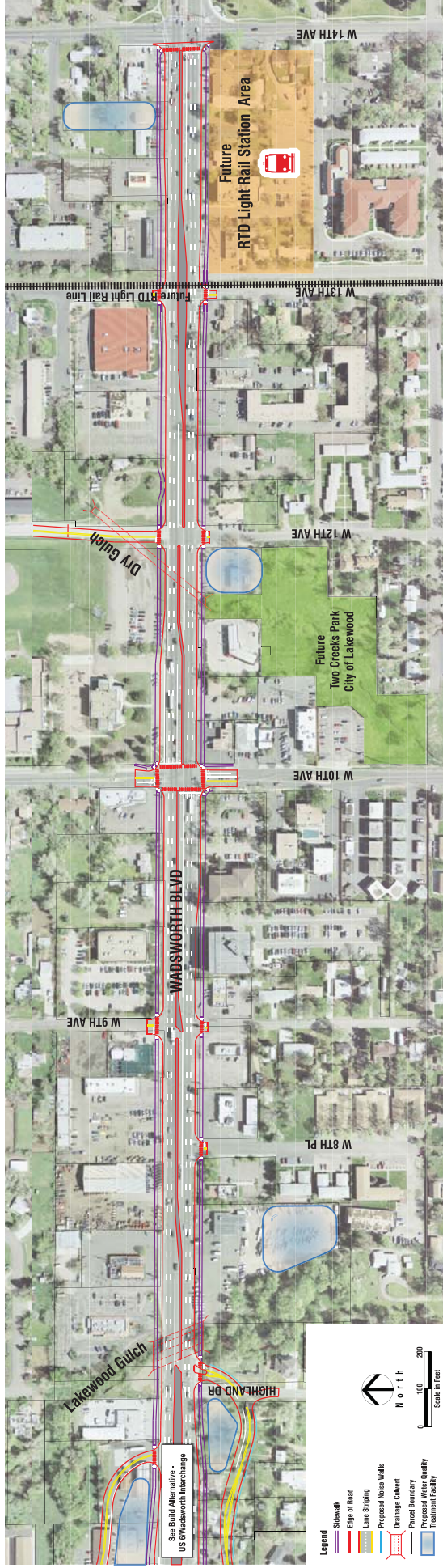
Project Wide

- 15 New noise walls between the frontage roads and US 6, west of Wadsworth.
- 16 Detached multi-use sidewalk along both sides of Wadsworth.

Build Alternative - US 6/Wadsworth Interchange



Build Alternative - Wadsworth Boulevard



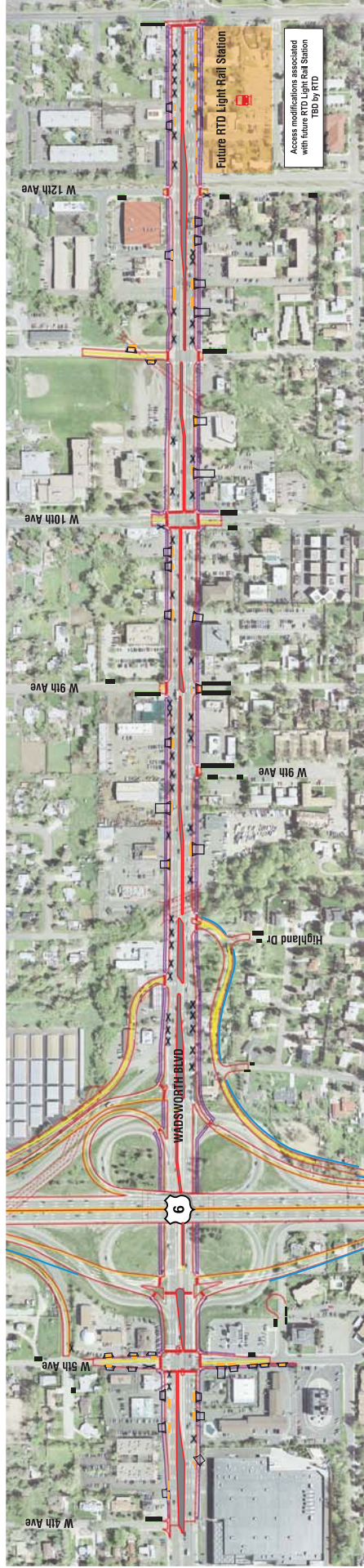
Notes: Sidewalk widths would accommodate both bicycle and pedestrian use. Landscaping in sidewalk buffers and median will be coordinated with Lakewood and included where feasible.

PROPOSED WADSWORTH CROSS SECTION

* Additional improvements to 14th avenue to be made by others.



Access Management

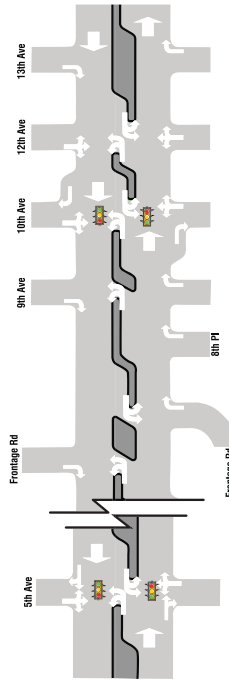


Legend

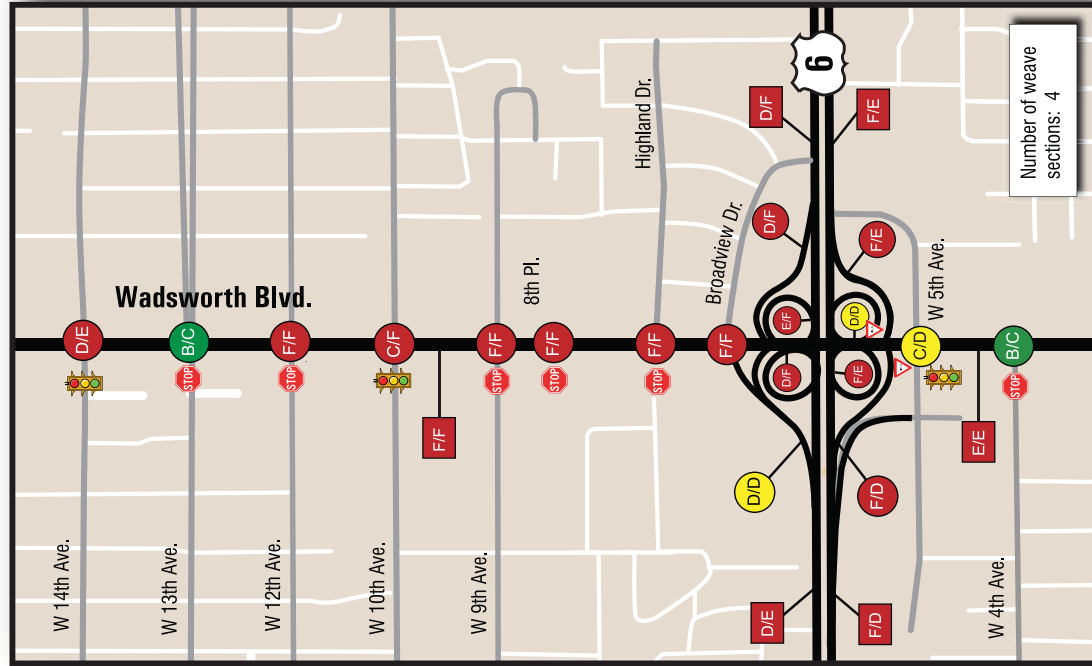
- Sidewalk
- Edge of Road
- Lane Striping
- Proposed Noise Walls
- Drainage Culvert
- Raised Median
- Access to Remain Unchanged
- Access to Remain but be Reconstructed
- New or Reconstructed Access
- Access to be Closed



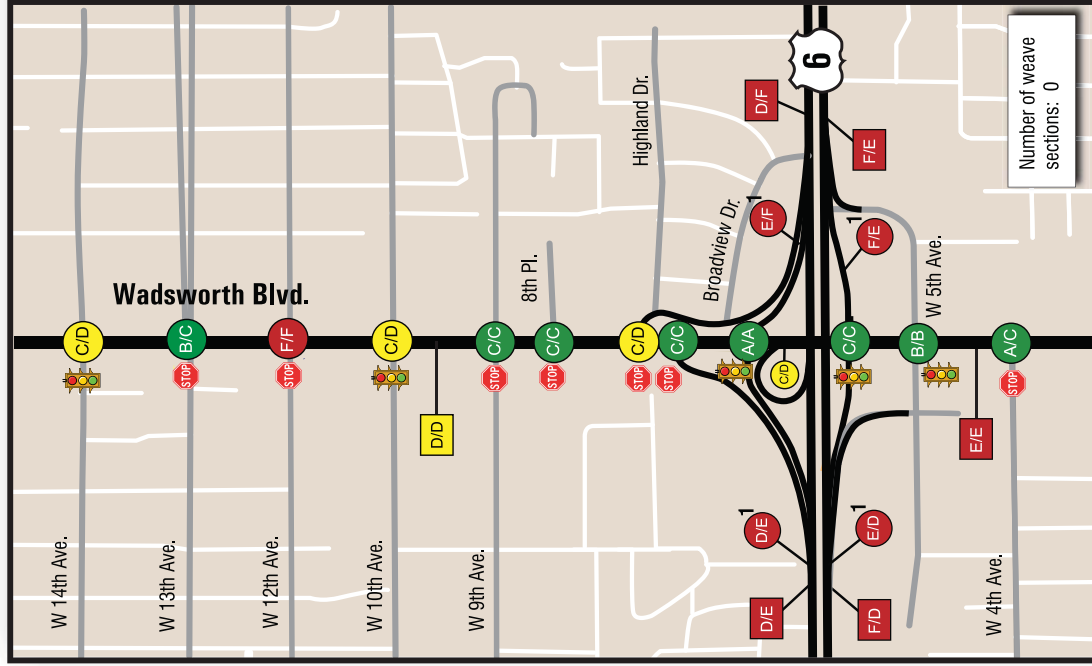
North
0 150 300
Scale in Feet



Year 2035 Traffic Levels of Service



No Build Alternative



Build Alternative

LEGEND

- [E/F] = Through Traffic Level of Service During Peak Hours (AM/PM)
- (E/F) = Intersection, Ramp, or Weave Level of Service During Peak Hours (AM/PM)*

- [Signal] = Signal
- [ABC] = Good
- [D] = Fair
- [EF] = Poor

***Notes:**

- LOS reported at stop controlled intersections represents the non-signalized cross-streets, not through traffic on Wadsworth.
- Frontage Road LOS not shown in either diagram.

¹While traffic level of service does not appear to improve at these locations, the Build Alternative accommodates approximately 10% more traffic than the No Build Alternative, reducing congestion on Kipling, Sheridan, and Garrison Streets. The new interchange configuration would also reduce vehicle conflicts and improve safety for motorists, pedestrians, and bicyclists.

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

- 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

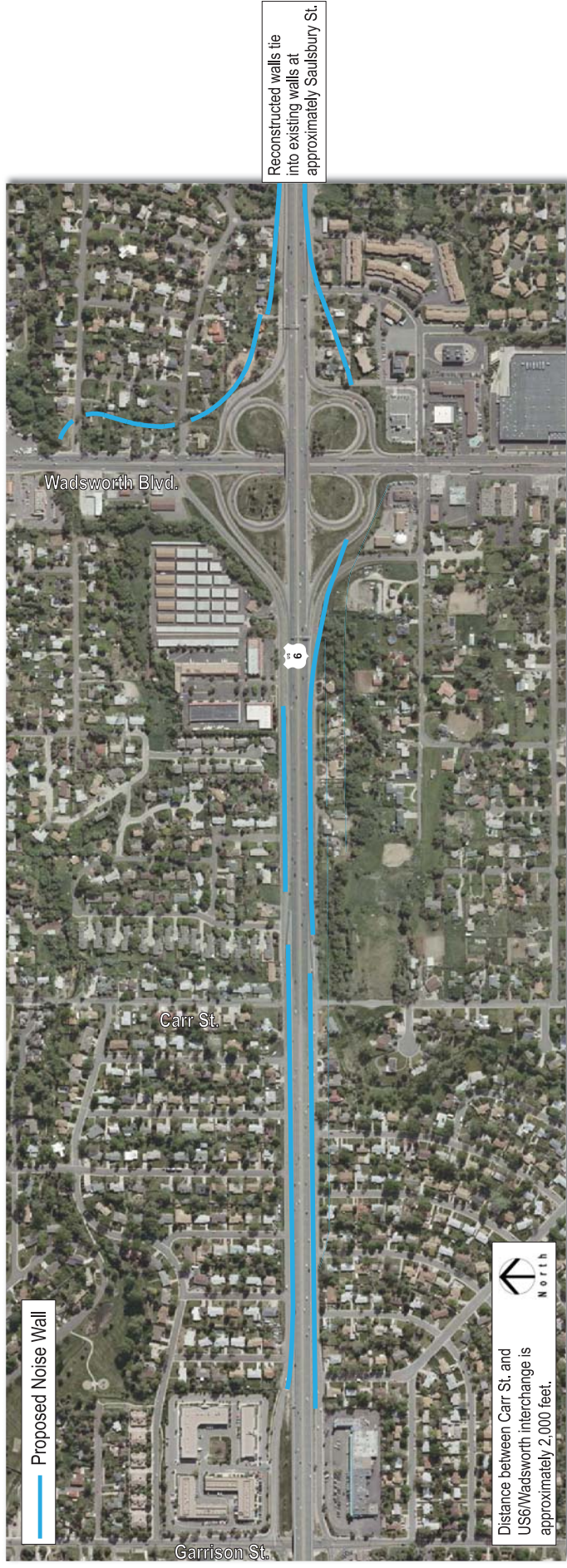
- Worst conditions with heavily congested flow, traffic demand exceeding capacity
- Poor travel time, low comfort and convenience

US 6/Wadsworth



Environmental
Assessment

Noise Mitigation



Proposed Noise Wall Locations

- CDOT is proposing to construct over 2 miles of new noise walls and reconstruct 1,700 feet of existing noise walls.
- Noise walls would provide more than 380 residences with a noticeable reduction in traffic noise (3 decibels or more).
- The cost of the walls is estimated to be \$4.8 million (at \$30 per square foot).

Noise Wall Aesthetics

Standard Architectural Treatments



- Considers elements such as texture, shape, color, and patterns.



Alignment Changes



- Addresses changes in topography and shifts in alignment.



Vertical Stepping/Sloping of Panels



- May create a more visually interesting design and facilitate landscaping treatments.



Barrier End Treatments



- Creates aesthetically pleasing treatments at the ends of noise barrier systems.



Horizontal/Vertical Caps



- Provides visual interest and smoothes a barrier's profile.

Source: FHWA Highway Noise Barrier Design Handbook, 2000.



Build Alternative Impacts and Mitigation

Impacts	Mitigation Measures
<p>Transportation</p> <p>Enhanced capacity, safety, and operational efficiency for all modes of travel</p>	<p>Roadway improvements will be coordinated with transit and other development needs</p>
<p>Pedestrian and Bicycle Facilities</p> <p>New sidewalks and improved roadway crossings enhance mobility and safety for pedestrians and bicyclists</p>	<p>Final design will consider other measures to enhance safety of interchange ramp crossings</p>
<p>Noise</p> <p>Noise increase of 2 to 7 decibels without noise walls</p>	<p>CDOT will construct noise walls on US 6 from Wadsworth to Garrison</p>
<p>Right-of-Way and Relocations</p> <p>31.1 acres of property required from 96 owners; 14 residences and 28 businesses displaced</p>	<p>Acquisitions and relocations will comply with federal and state requirements, including the Uniform Act</p>
<p>Land Use</p> <p>Supports land use goals in adopted community plans</p>	<p>CDOT will coordinate with Lakewood to address non-conforming properties that may result from ROW acquisition</p>
<p>Historic Properties</p> <p>Acquisition (and demolition) of four historic properties</p>	<p>Memorandum of Agreement among CDOT, FHWA, SHPO, and others will identify mitigation measures</p>
<p>Hazardous Materials</p> <p>Construction impacts to seventeen sites with possible petroleum-related contamination</p>	<p>Project specifications for hazardous materials will be prepared and implemented during construction to protect worker health and safety</p>
<p>Floodplains</p> <p>Removal of CDOT roadways from the 100-year floodplain</p>	<p>CDOT will coordinate with local and federal agencies on hydraulic analysis and floodplain permits</p>
<p>Water Resources/Quality</p> <p>Increased pollutant loads in adjacent waterways without water quality treatment, due to additional paved road surface</p>	<p>Permanent water quality treatment features will be constructed and maintained to treat roadway runoff and improve water quality</p>
<p>Wetlands and Waters of the United States</p> <p>0.02 acre of wetland impacts in gulches; wider channels provide opportunity to establish new wetlands and riparian habitat</p>	<p>Wetlands will be replaced at a 1:1 ratio, and a Section 404 permit will be obtained</p>

*All resources were evaluated for presence within the study area and for impacts. Where impacts were identified, mitigation has been proposed and is described above. See the US 6 and Wadsworth Environmental Assessment and Draft Section 4(f) Evaluation for more detailed information on impacts and mitigation

US 6/Wadsworth



Environmental Assessment



Estimated Property Impacts

Property Acquisitions

(Subject to Final Design)

Residential

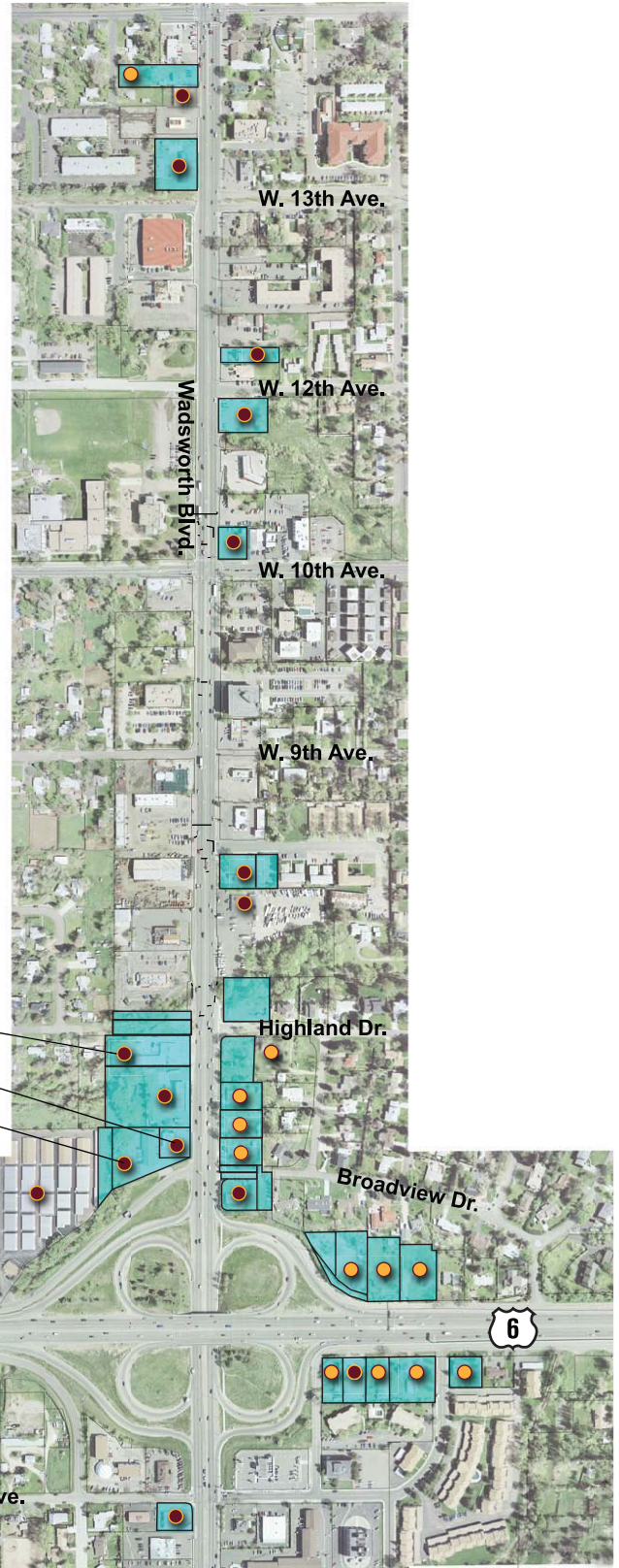
- 17 total acquisitions (6.7 acres)
- 28 partial acquisitions (2.2 acres)
- 14 residential displacements

Commercial

- 18 total acquisitions (7.4 acres)
- 47 partial acquisitions (10.6 acres)
- 28 business displacements

Public

- 2 total acquisitions (0.6 acres)
- 2 partial acquisitions (0.7 acres)



North

0 450 900

Scale in Feet

Properties with Multiple Businesses

- 4 displacements
- 3 displacements
- 3 displacements
- 6 displacements

Legend

- Total Acquisition
- Residential Displacement
- Business Displacement

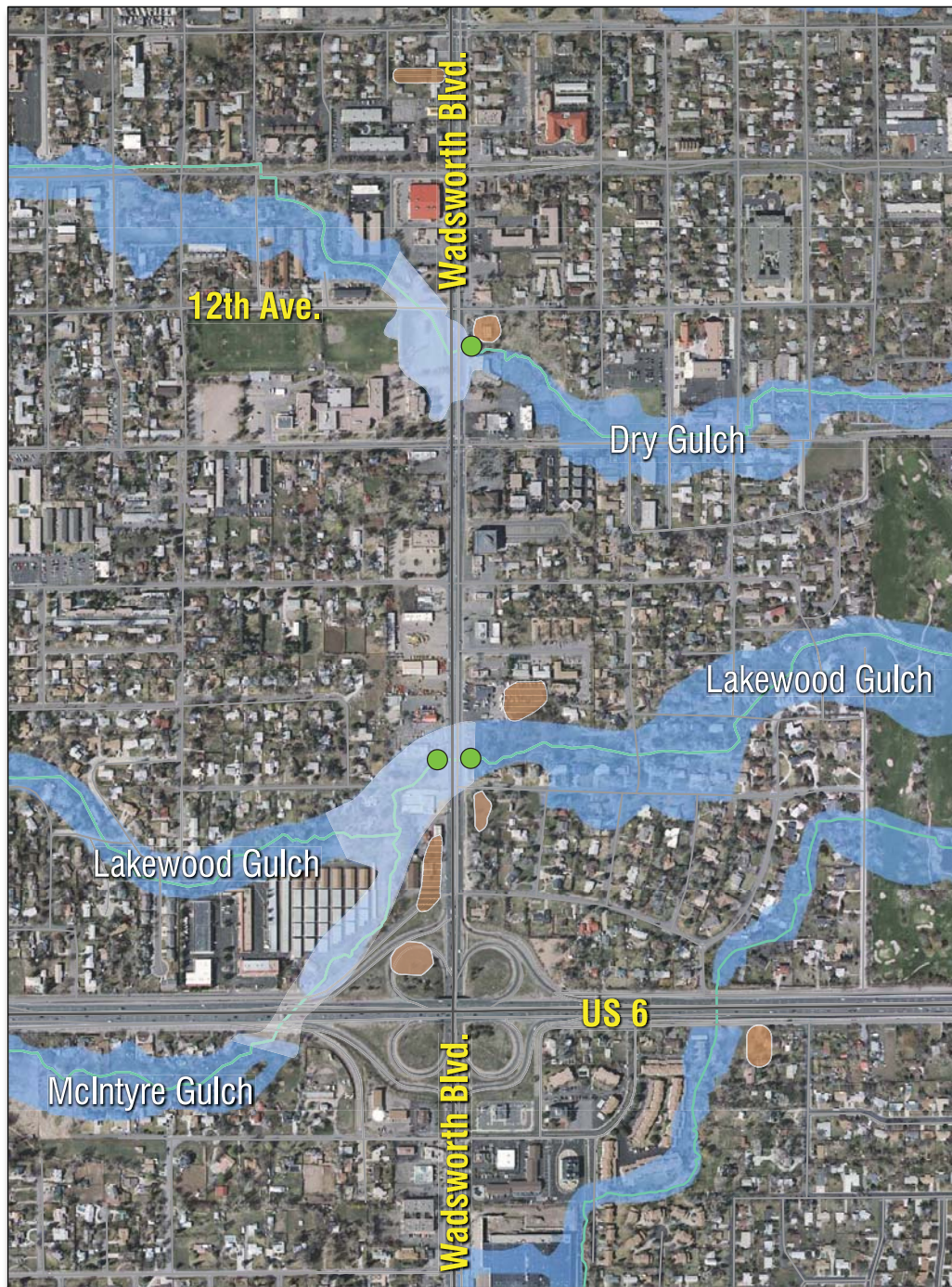
US 6/Wadsworth








Environmental Assessment



Drainage Improvements and Wetlands Impacts



Legend

-  Wetlands (not to scale)
-  100-Year Floodplain
-  Proposed Water Quality Treatment Facility
-  Area of Drainage Improvements and Channel Realignment
-  Drainage Channels



North

US 6/Wadsworth



Environmental Assessment



Water Quality Treatment

What is a water quality pond?

Water quality ponds are shallow depressions designed to filter pollutants from stormwater runoff before the runoff enters adjacent waterways.

Do the ponds contain water all the time?

No. The ponds are designed to be dry most of the time. 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.

Why are the ponds needed?

The Clean Water Act requires CDOT to treat stormwater runoff from state highway facilities to protect water quality in our waterways. Ponds provide efficient pollutant removal for a large range of suspended solids and heavy metals.

Local examples of water quality ponds

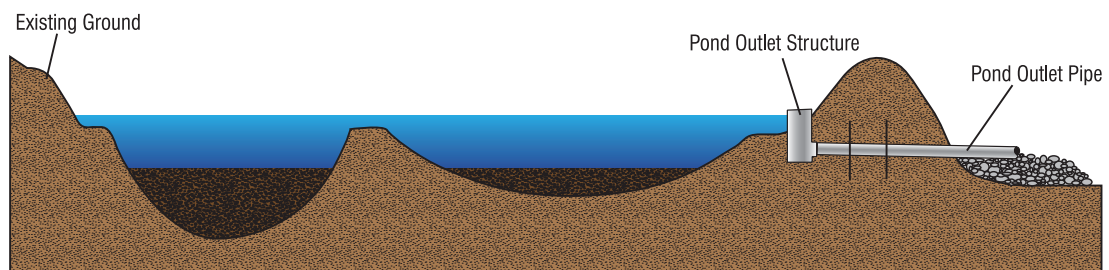


Water quality pond, Lakewood City Commons at Alameda Blvd. and Wadsworth Blvd.



Water quality pond, Creekside development at Colfax Ave. and Wadsworth Blvd.

Example Water Quality Pond Design



Liebl, D., Stormwater Detention Ponds Site Safety & Design, 2006

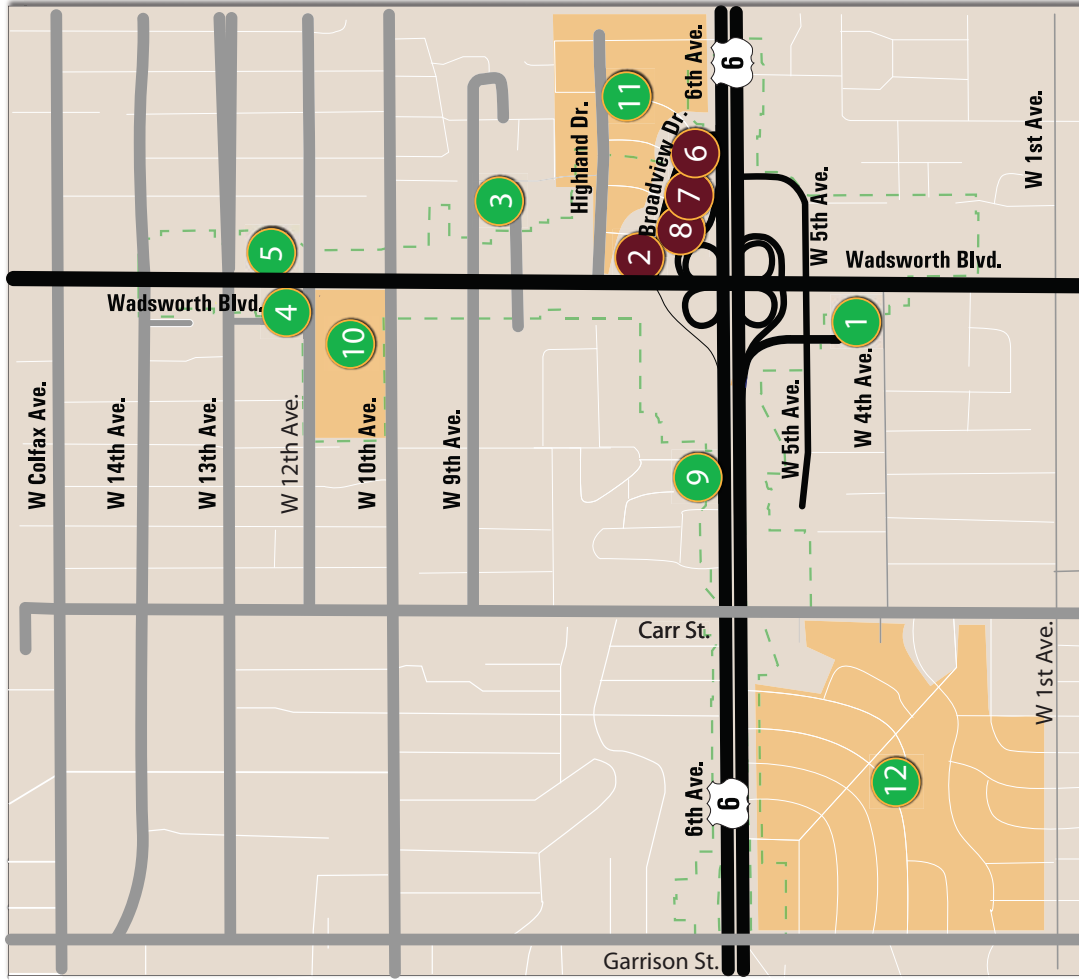
US 6/Wadsworth



Environmental Assessment



Historic Properties in Study Area



- Historic District Boundary
- Survey Area
- Property not adversely affected by the Build Alternative
- Property adversely affected by the Build Alternative

Historic Properties

- 401 Wadsworth Blvd. Adversely Affected by Acquisition of Property
- 700 Wadsworth Blvd. Adversely Affected by Acquisition of Property
- 7558 W 9th Ave. Adversely Affected by Acquisition of Property
- 1215 Wadsworth Blvd. Adversely Affected by Acquisition of Property
- 1230 Wadsworth Blvd. Adversely Affected by Acquisition of Property
- 7395 W 6th Ave. Adversely Affected by Acquisition of Property
- 7423 W 6th Ave. Adversely Affected by Acquisition of Property
- 7433 W 6th Ave. Adversely Affected by Acquisition of Property
- 8125 W 6th Ave. Adversely Affected by Acquisition of Property
- Lakewood School Historic District
- Green Acres Historic District
- Meadowlark Hills Historic District

Section 4(f) Park Resource

Future Two Creeks Park Impacts



-  Existing Culvert
-  Area of Culvert Extension

Impacts

- Extension of culvert farther into Dry Gulch within park property (0.11 acre).
- Affected area is a confined drainage channel that could not support active recreation.
- Future park activities, features, or attributes would not be affected.