

LARIMER COUNTY: ENGINEERING



THORNTON PROJECT 1041 & COUNTY ROADS

MAY 16, 2018



ENGINEERING TOPICS

- Utility Construction in Public Right-of-Way
- Douglas Road
 - Current Roadway Conditions
 - Future Roadway Needs
 - Roadway Concept Layout
- Thornton Pipeline in Douglas Road

RIGHT-OF-WAY CORRIDORS

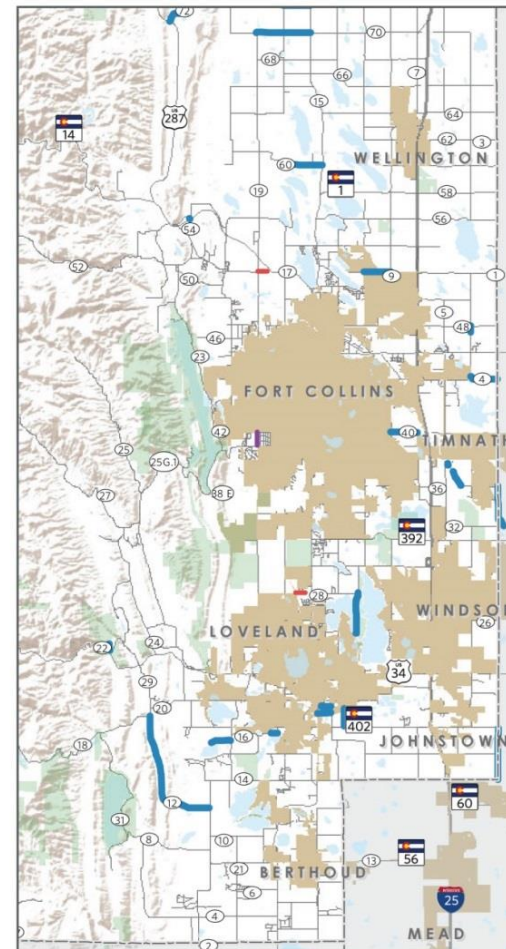
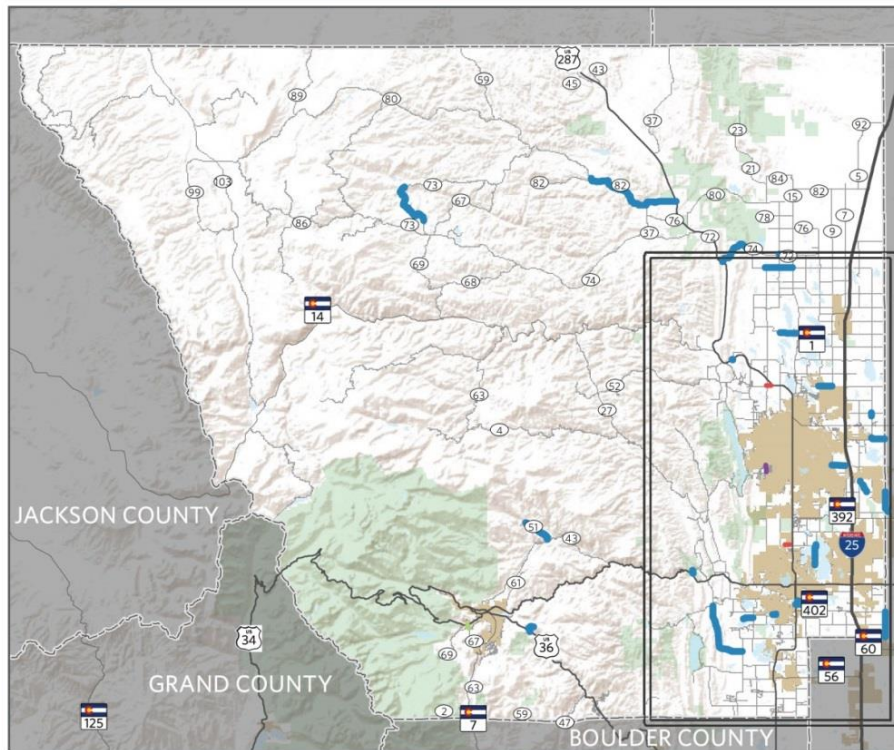
- Use of public right-of-way for roads
- Use by existing utilities
 - Water distribution mains and services
 - Culverts and drainage
 - Sewer / wastewater
 - Electric
 - Natural gas
 - Cable, phone, data
 - Other underground infrastructure

REQUIREMENTS FOR UTILITY CONSTRUCTION IN RIGHT-OF-WAY

- Must obtain right-of-way permit (Issue ~ 300 permits yearly)
- Engineered plans
- Schedule/duration/work hours
- Traffic control plan, including detour plan as appropriate
- Emergency response, local access, mail delivery
- Meet construction & restoration requirements contained in Larimer County Design Standards (Urban or Rural)
- Restore existing roadway pavement to a condition equivalent to pre-project conditions
- Other permits – stormwater, wetlands, floodplain, etc.
- Warranty repairs

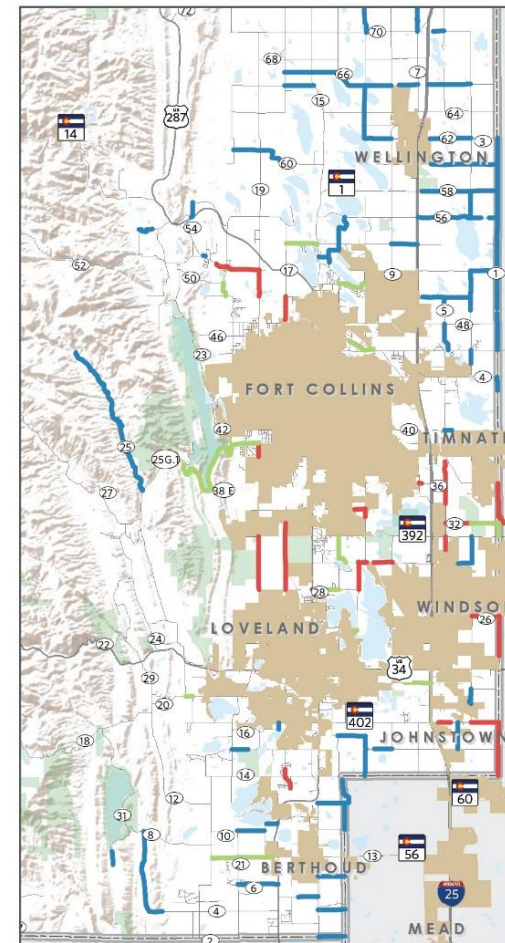
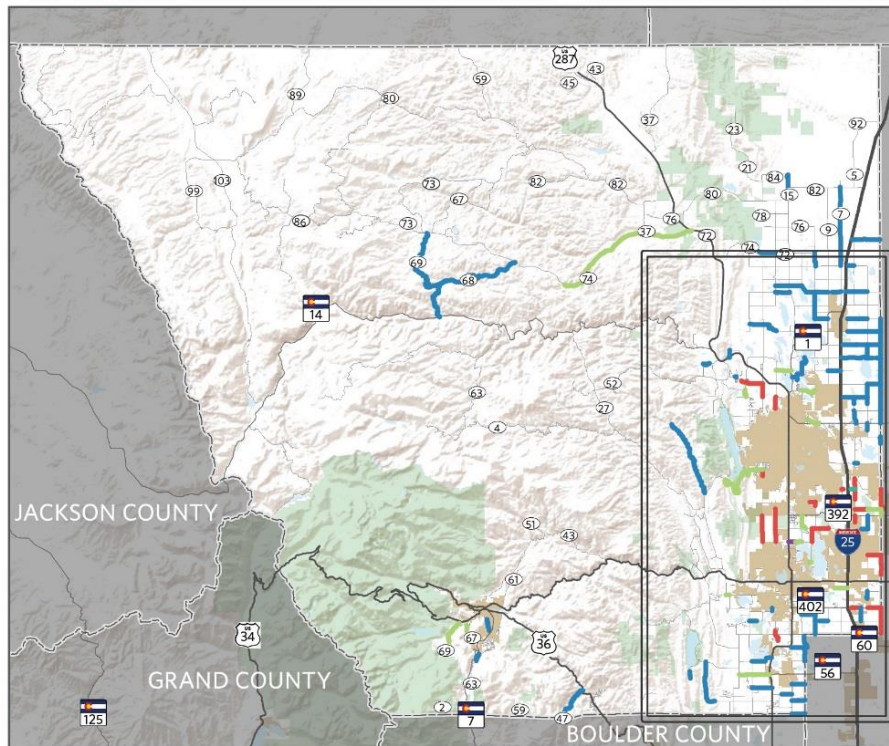
TRANSPORTATION MASTER PLAN

SHORT-TERM CAPACITY NEEDS

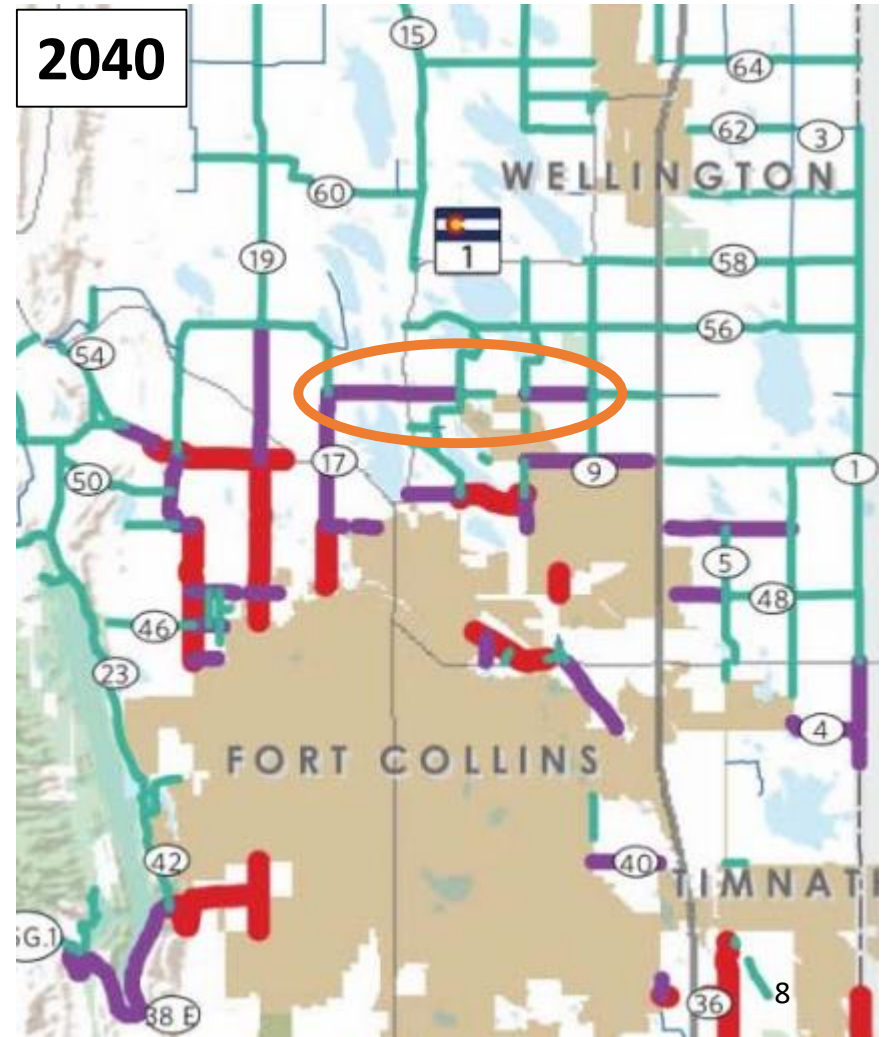
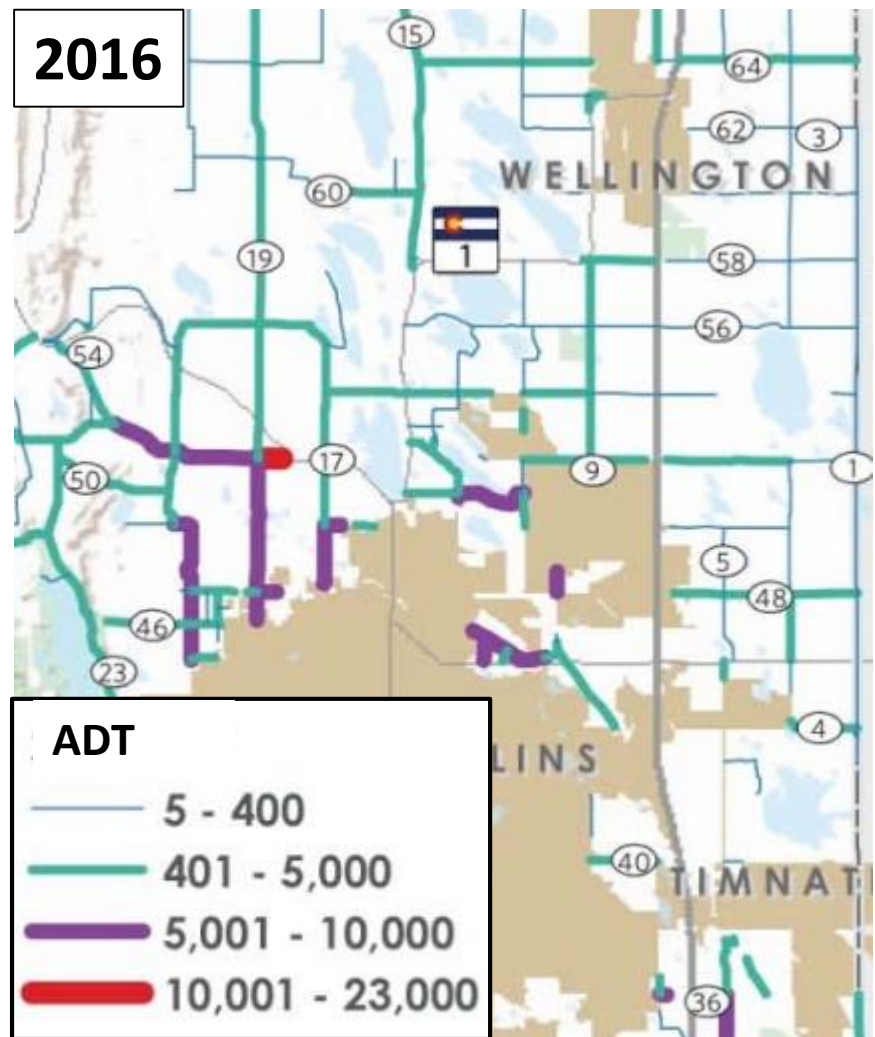


TRANSPORTATION MASTER PLAN

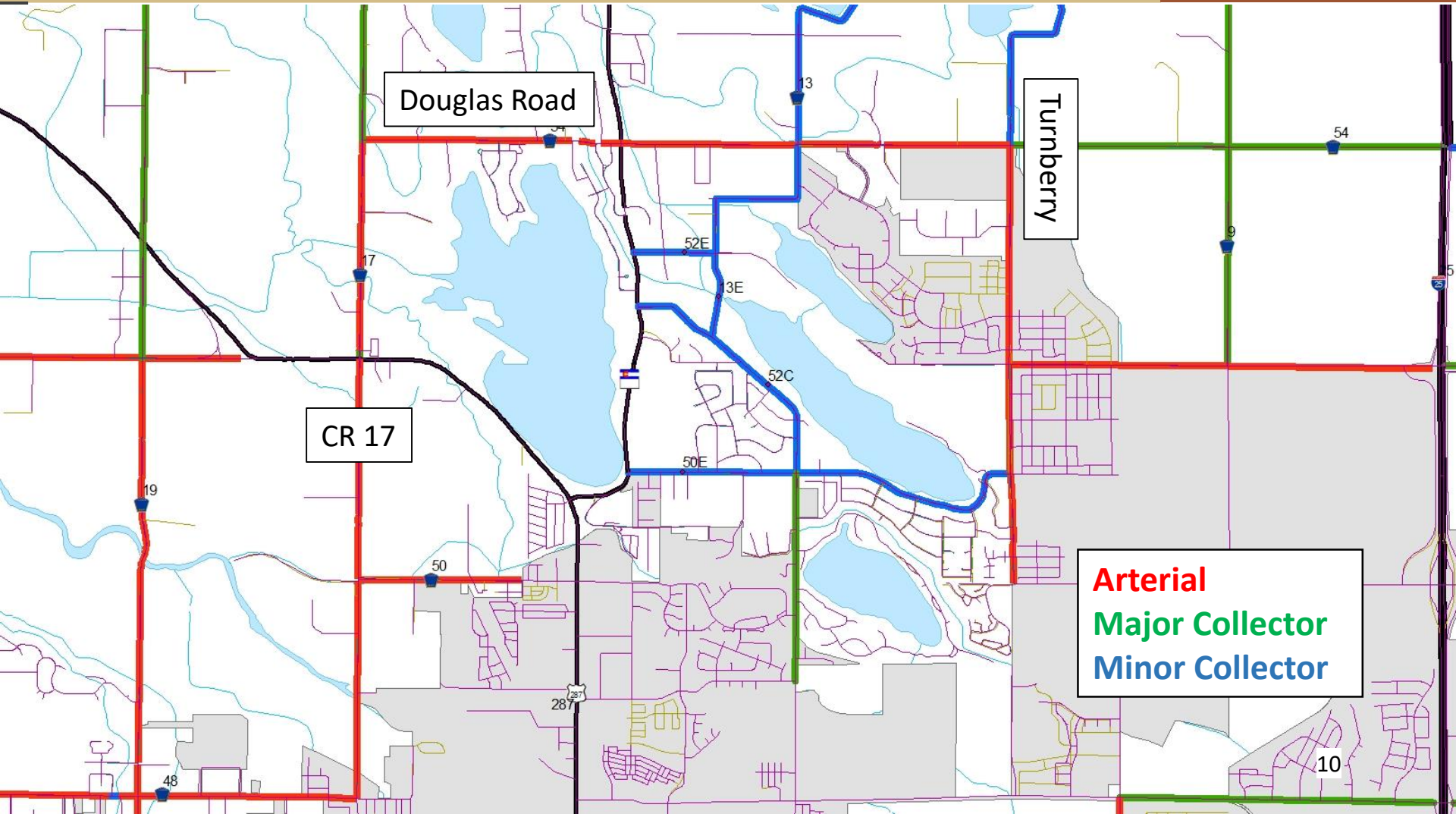
LONG-TERM CAPACITY NEEDS



TRAFFIC GROWTH



ROAD FUNCTION



CAPITAL IMPROVEMENT PLAN (CIP)

- County has a 5-year capital improvement plan (CIP) that identifies funded projects through 2022
- Signalization of Douglas/SH 1 intersection is part of the current CIP (Larimer/CDOT/Ft Collins)
 - 2019 Design
 - 2020 Construction
- No other improvements to Douglas Road are included in the current CIP

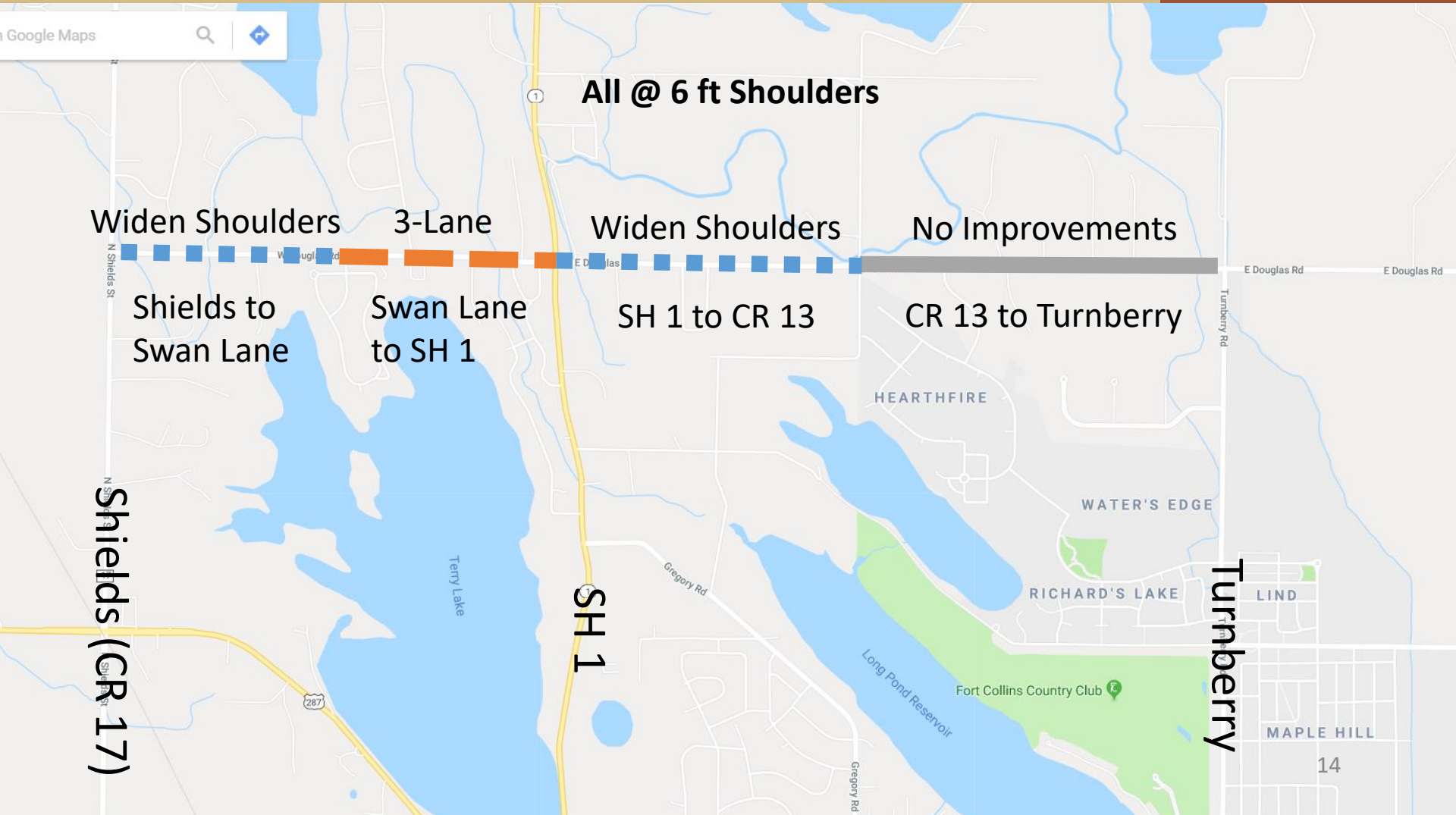
TYPICAL ROAD ELEMENTS

- Maintain one travel lane in each direction
- Rural section generally with roadside drainage
- Widened paved shoulders to support bicyclists, etc.
- Turn lanes – continuous or localized – for both safety and capacity
- Extend or reconstruct drainage & irrigation crossings

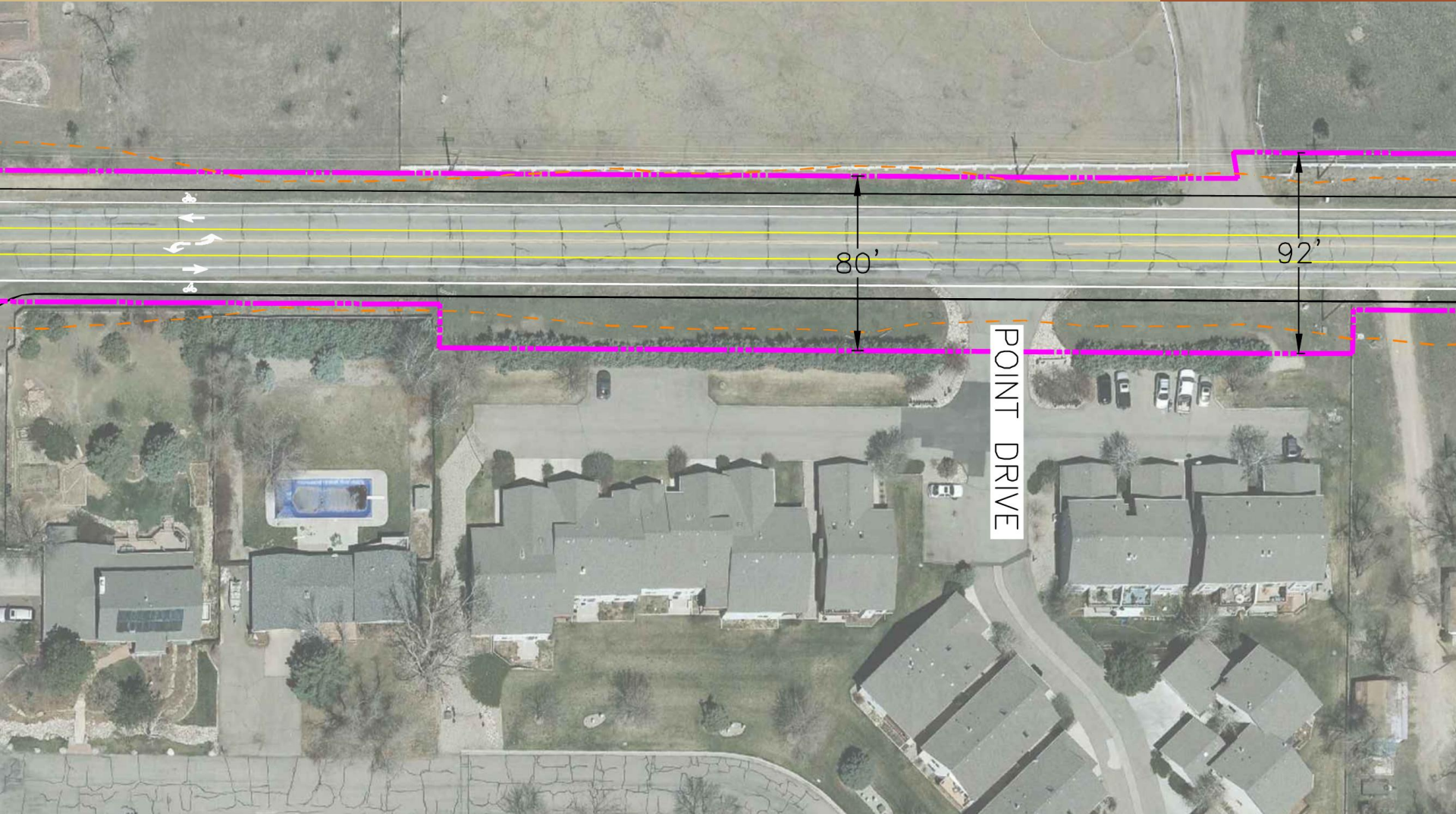
POTENTIAL IMPROVEMENTS



REVISED IMPROVEMENTS

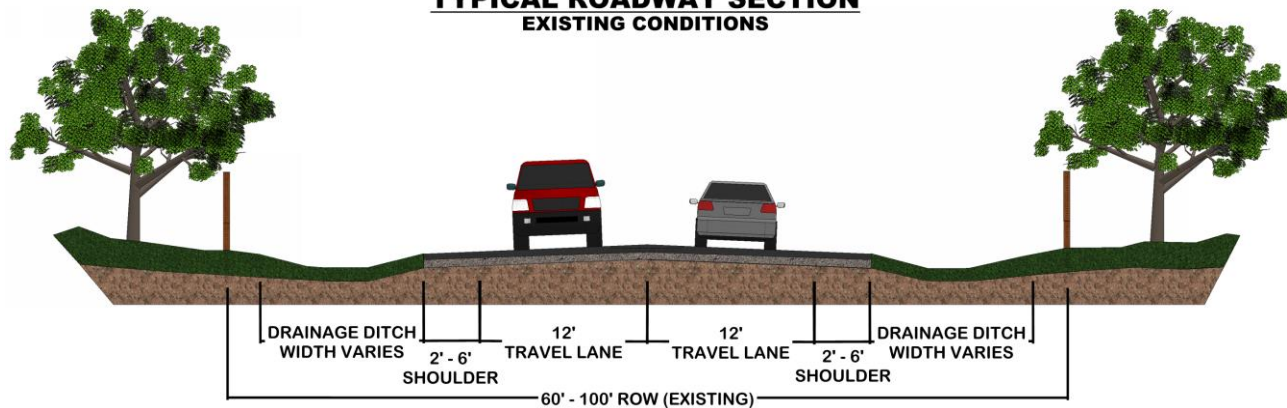


REVISED IMPROVEMENTS

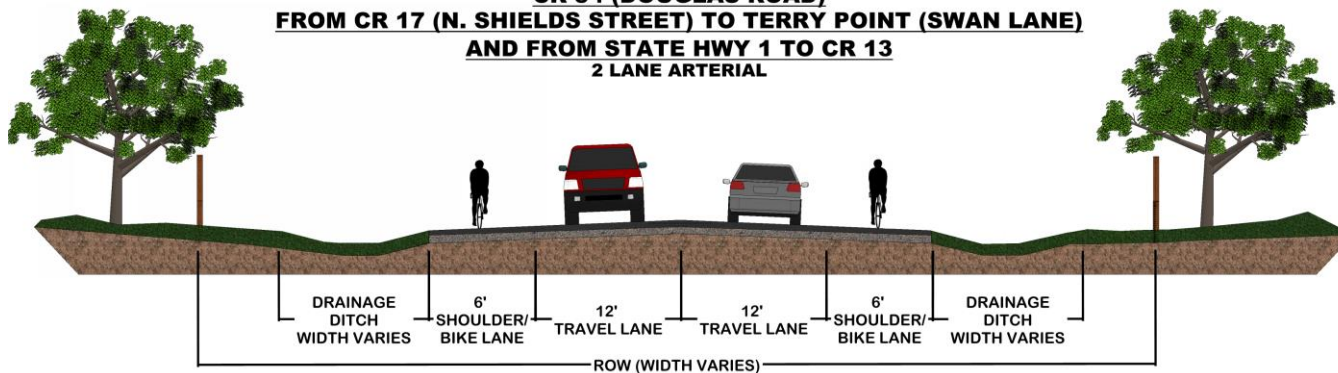


TYPICAL ROAD CROSS SECTION

**TYPICAL ROADWAY SECTION
EXISTING CONDITIONS**



**TYPICAL ROADWAY SECTION
CR 54 (DOUGLAS ROAD)
FROM CR 17 (N. SHIELDS STREET) TO TERRY POINT (SWAN LANE)
AND FROM STATE HWY 1 TO CR 13
2 LANE ARTERIAL**



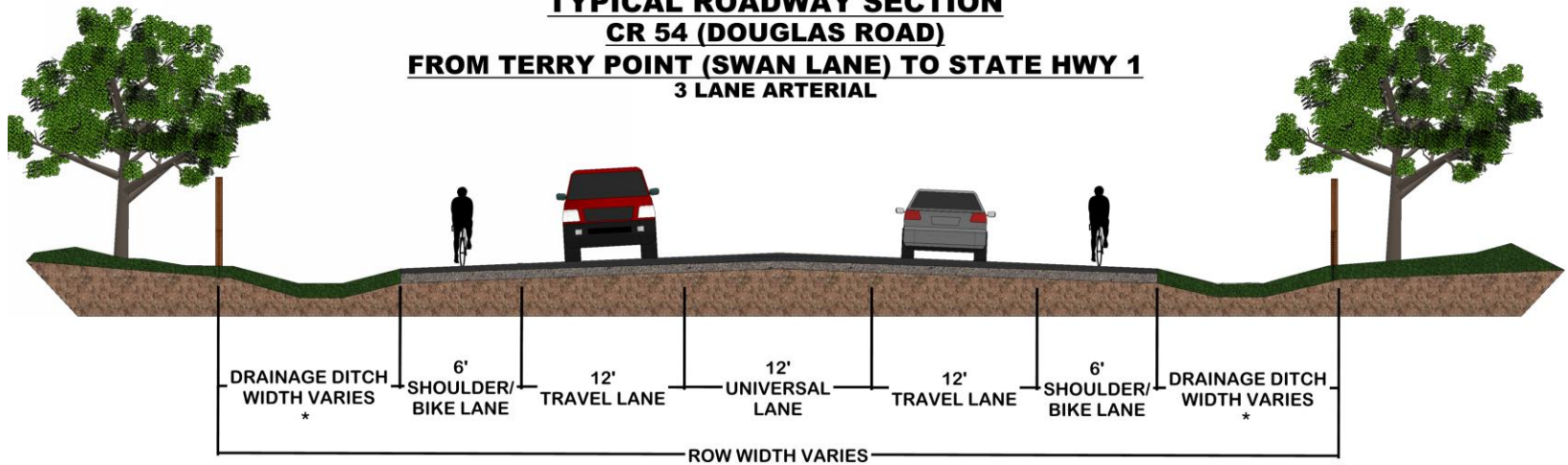
TYPICAL ROAD CROSS SECTION



Boyd Lake Avenue (CR 11C)

TYPICAL ROAD CROSS SECTION

TYPICAL ROADWAY SECTION
CR 54 (DOUGLAS ROAD)
FROM TERRY POINT (SWAN LANE) TO STATE HWY 1
3 LANE ARTERIAL



* CURB & GUTTER PROPOSED FROM JUST EAST OF HARBOR WAY TO STATE HWY 1



Shields Street North of Poudre River

RIGHT-OF-WAY (ROW)

Current right-of-way varies from 60 ft to 100 ft
Only acquire ROW needed for specific road improvement project

- | | |
|--|---------------------|
| • Two 12 ft travel lanes | 24 ft |
| • One 12 ft center turn lane | 12 ft |
| • Two 6 ft paved shoulders | 12 ft |
| • Two roadside drainage ditches | <u>32 ft</u> |
| TOTAL | 80 ft* |

* Dimensions may change based on terrain, embankment slopes and turn lanes

RIGHT-OF-WAY (ROW)

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Only acquire ROW needed for specific road improvement project

• Two 12 ft travel lanes	24 ft
• One 12 ft center turn lane	12 ft
• Two 6 ft paved shoulders	12 ft
• Two roadside drainage ditches	<u>32 ft</u>
TOTAL	68 ft*

* Dimensions may change based on terrain, embankment slopes and turn lanes

PIPELINE CORRIDOR

Data Collection Process

- ❖ Field surveying
 - Identify property lines & right-of-way limits
 - Locate fences and other features
 - Locate overhead and underground utilities
- ❖ Evaluate pipeline alignment, narrow corridor width

Submitted information identifies that proposed pipeline and associated work limits can be located within existing right-of-way along Douglas Road

