



# Level 2 Updated Traffic Operations Memo

Date: Friday, January 09, 2026

Project: Rathdrum Prairie Area Transportation Study

To: Carrie Ann Hewitt, ITD District 1

From: HDR

Subject: Level 2 Updated Traffic Operations Memo

## Introduction

The Idaho Transportation Department (ITD) District 1, along with the Kootenai Metropolitan Planning Organization (KMPO) and the Federal Highway Administration (FHWA), is leading the Rathdrum Prairie Area Transportation Study. The Level 2 screening evaluation compared each alternative in a deliberate sequence, first looking at performance – or traffic operations, then impacts and benefits – or right-of-way and environmental impacts, and finally implementation – or relative construction impacts and project costs. The Level 2 traffic operations analysis provided a quantitative assessment of each alternative’s improvements to the transportation system in the study area. The analysis focused on area-wide metrics based on macroscopic operations of major corridors using travel demand model outputs.

Thirteen (13) alternatives were evaluated at Level 2, using the latest KMPO No-Build model for the year 2045 as a basis. Seven (7) of these alternatives were recommended to be carried forward based on performance, with another three (3) recommended to be retained as an element also based on performance. Out of these ten (10) alternatives, four (4) alternatives were then recommended to be carried forward based on impacts and benefits, and one (1) alternative was recommended to be retained as an element also based on impacts and benefits. All the remaining five (5) alternatives passed the implementation step of the screening and moved on to Level 3.

Public meetings were held in person in the Rathdrum Prairie area on September 17 and 18, 2025 as well as online. These public meetings reviewed the Level 2 screening process, presented the Level 2 alternatives with detailed descriptions of each, and provided justification for the screening results of each alternative at each step of the Level 2 screening process.

**Attachment A** shows *the Level 2 Alternatives Screening Results for Public Review and Input* document that accompanied these public meetings.

After the Level 2 results were presented to the public, several discrepancies between the Level 2 model runs and the written descriptions of the alternatives were identified. This memo will document the discrepancies, present a revised analysis, and demonstrate that the discrepancies did not result in any change in the results or recommendations from the Level 2 screening.



# Differences Between Level 2 Written Descriptions and Model Runs

The Level 3 alternatives were developed from the Level 2 alternatives carried forward, using the Level 2 model runs as a basis. During the development of Level 3 alternatives, several discrepancies between the Level 2 model runs and the written descriptions of the Level 2 alternatives were identified. Alternatives E, L, M, and N all include improvements to State Highway 53 (SH-53) which were modeled differently from the written descriptions. The model runs were corrected to be consistent with the written descriptions that were presented to the public.

The differences between the Level 2 written descriptions and the model runs prior to correction are described in **Table 1** below.

**Table 1: Differences Between Level 2 Written Descriptions and Model Runs**

Alt	SH-53	
	As Described	As Modeled
E	<ul style="list-style-type: none"> <li>• Access-controlled highway:</li> <li>• Washington state line to Greensferry Road</li> <li>• Bypass north of Rathdrum</li> <li>• Follow existing SH-53 alignment east of Rathdrum to US-95</li> <li>• Local access roads</li> </ul>	<ul style="list-style-type: none"> <li>• Access-controlled highway:</li> <li>• Pleasant View interchange to Greensferry Road</li> <li>• Bypass north of Rathdrum</li> <li>• Follow existing SH-53 alignment east of Rathdrum to US-95</li> <li>• Local access roads</li> </ul>
L	<ul style="list-style-type: none"> <li>• Add lanes and improve intersections:</li> <li>• Pleasant View interchange to Rathdrum</li> <li>• Local access roads</li> </ul>	<ul style="list-style-type: none"> <li>• Add lanes and improve intersections:</li> <li>• Washington state line to Meyer Road bypass</li> <li>• No Local access roads</li> </ul>
M	<ul style="list-style-type: none"> <li>• Add lanes and improve intersections:</li> <li>• Pleasant View interchange to Rathdrum</li> <li>• Local access roads</li> </ul>	<ul style="list-style-type: none"> <li>• Add lanes and improve intersections:</li> <li>• Washington state line to Meyer Road bypass</li> <li>• No Local access roads</li> </ul>
N	<ul style="list-style-type: none"> <li>• Add lanes and improve intersections:</li> <li>• Pleasant View interchange to Rathdrum</li> <li>• Local access roads</li> </ul>	<ul style="list-style-type: none"> <li>• Add lanes and improve intersections:</li> <li>• Washington state line to Meyer Road bypass</li> <li>• No Local access roads</li> </ul>

These alternatives all consist of improvements to additional corridors other than SH-53. However, no discrepancies between the written descriptions and the model runs were observed on those other corridors. Full descriptions of each alternative can be found in the public meeting document (Attachment A).



The discrepancies between the written descriptions and the travel demand model influence the measures of effectiveness used to evaluate the performance of each alternative. Performance was step 1 of the Level 2 screening process. It is worth noting that step 2 (impacts) and step 3 (implementation) of Level 2 were based on the written descriptions. Therefore, the results of those steps of the Level 2 screening would not change if the results of step 1 (performance) also remain unchanged.

## Analysis Results

The updated model runs for alternatives E, L, M, and N at Level 2 were analyzed using the travel time savings metrics from Level 2, which measures the AM and PM combined travel time savings from the No-Build in vehicle-minutes. Refer to the *Rathdrum Prairie PEL Level 2 Traffic Analysis Memo (Attachment B)* for a detailed description of this metric.

Although the travel time savings changed in each alternative with the updated analysis, these changes are relatively minor and resulted in no change to the ratings and therefore no impact on the overall assessment. **Table 2** below shows the travel time savings results for both the previous and revised condition, based on the evaluation scale from Level 2, which is presented in **Table 3**.

Alternative E shows improved travel time savings, primarily due to the expanded scope of widening improvements along SH-53. Alternatives L, M, and N showed reduced travel time savings, primarily due to the reduced scope of widening improvements along SH-53. The addition of local access roads to SH-53 in alternatives L, M, and N slightly improved travel time savings for those alternatives, since some traffic was shifted from SH-53 to the local access roads. However, these improvements had a lesser effect on the operations and were not enough to offset the travel time differences caused by the change in the limits of the SH-53 widening in these alternatives.

Alternatives E, L, M, and N were the four top performing alternatives in terms of traffic operations and were the only four that scored at least a 4 out of 5 on travel time savings in the initial Level 2 results. As shown in Tables 2 and 3 below, despite the change in travel time savings observed with the updated model runs, the relative ranking and scores of these alternatives remain unchanged.

**Table 2: Travel Time Savings Results of Corrected Alternatives**

Alternative	Original Analysis		Revised Analysis	
	Travel Time Savings (vehicle-minutes)	Rating	Travel Time Savings (vehicle-minutes)	Rating
E	7700	4	8700	4
L	10400	5	9200	5
M	10400	5	9200	5
N	10700	5	9400	5

**Table 3: Level 2 Comparative Evaluation Scale (Travel Time)**

Comparative Evaluation Scale					
Travel Time (Performance)	Worst (1)	Poor/Negative (2)	Neutral/Medium (3)	Better/Good (4)	Best (5)
Average travel time savings from No-Build weighted by the average corridor traffic volume.	Travel time savings is the same or worse than the No-Build condition.	Travel time savings between 0-3,000 vehicle-minutes.	Travel time savings between 3,000-6,000 vehicle-minutes.	Travel time savings between 6,000-9,000 vehicle-minutes.	Travel time savings more than 9,000 vehicle-minutes.

## Conclusions

The travel demand models for Level 2 alternatives E, L, M, and N were corrected to be more consistent with the written descriptions of the alternatives presented to the public. These corrections included changing the limits of widening improvements along SH-53 in all four alternatives, and adding the SH-53 local access roads to alternatives L, M, and N. The updated models were analyzed using the travel time savings metric and evaluation scale from Level 2 to determine if the Level 2 screening results would change.

The results show an improved travel time savings score for alternative E due to the model corrections, and a reduced travel time savings score for alternatives L, M, and N due to the model corrections. However, the relative ranking and evaluation scores of these four alternatives remain unchanged because of the model corrections.

As noted in the public meeting document (Attachment A), alternatives E and L were carried forward based on performance but were screened out due to their relatively high ROW and environmental impacts. Therefore, the changes in the performance metrics for alternatives E and L can be considered inconsequential to the overall Level 2 screening results.

Alternatives M and N passed through Level 2 screening and were slated to be evaluated in greater detail at Level 3. These two alternatives both scored 5 out of 5 on the travel time performance metric initially and scored the same with their travel demand models corrected. Therefore, alternatives M and N would still pass through step 1 of the Level 2 screening with the results of their corrected model runs and subsequently, they would pass through steps 2 and 3 of the Level 2 screening as well.

The corrected results demonstrate that the relative ranking and evaluation scores of alternatives E, L, M, and N, as well as the overall Level 2 screening results, remain unchanged as a result of the model corrections. This validates the Level 2 screening and confirms the alternatives carried forward for further analysis at Level 3.



# Attachment A: Level 2 Alternatives Screening Results for Public Review and Input



**RATHDRUM PRAIRIE**  
AREA TRANSPORTATION STUDY

# Level 2 Alternatives Screening Results for Public Review and Input



**Share your input.**

**Visit the online meeting by scanning the QR code and submitting a comment form or mailing one to:**



ITD District 1  
Attn: Carrie Ann Hewitt, P.E.  
600 W. Prairie Ave.  
Coeur d'Alene, ID 83815-8764

*Recommendations from the study and the public and agency input received may be adopted or incorporated into future National Environmental Policy Act (NEPA) studies per 23 United States Code (USC) 168 or Federal Regulations (CFR) 450.212 and 450.318.*



**Project Introduction**

Thank you for your interest in the Rathdrum Prairie Area Transportation Study. The study will help identify ways to reduce congestion, enhance connectivity and improve mobility throughout the Rathdrum Prairie. We're planning for a transportation system that works for everyone—today and tomorrow.

This study aims to:

- » **Improve safety in areas with high crash rates.**
- » **Add capacity to address current and future traffic challenges as our region grows.**
- » **Consider new connections to make it easier for people to get where they need to go.**

The study considers environmental, community, and economic goals early on while planning future projects. This process is outlined by the Federal Highway Administration and weighs:

- » **Transportation issues and priorities**
- » **Environmental resources and concerns**
- » **Stakeholder and public concerns**

Recommendations from this study, shaped by public and agency input received, could move forward to the next step, into a federal review process called the National Environmental Policy Act, or NEPA, which is required before major transportation projects are built.

*Your input helps shape solutions that reflect the needs of the whole community.*

*We invite you to take a look at the transportation improvement options that came out of our Level 2 screening review process.*

**We Heard You**

Since 2022, the Idaho Transportation Department has gathered input from community members, stakeholders, and agencies through interviews, workshops, and public meetings. The feedback received has helped to shape the screening criteria, alternatives and recommendations you see today. Some alternatives were originally suggested and drawn out by the public at previous meetings.

This is our fourth round of public meetings for this study and each one has helped the team understand how public needs and priorities are focused as alternatives are developed and screened. During our last public meeting, held in November 2024, we introduced the Level 2 screening process to show how alternatives would be evaluated and heard the following from you:

- » **The community wants to protect existing neighborhoods and resources.**
- » **Avoiding cultural and historic sites is a priority.**
- » **A combination of the alternatives may be needed to address the regional traffic issues.**

Today, we're back to share the results of that evaluation and ITD's preliminary recommendations for which alternatives could move forward. Your feedback will help shape the final recommendations and decisions for the study.

4 . . . . . Level 2 Screening Evaluation and Steps

7 . . . . . Level 2 Alternatives

8 . . . . . Alternative B – US-95 Expanded Highway

10 . . . . . Alternative D – Huetter Road Improved Arterial

12. . . . . Alternative H – Access Controlled Highway, Huetter Road

14 . . . . . Alternative M – Access Controlled Highway, Pleasant View and parallel to Hayden, Wyoming...

16 . . . . . Alternative N – Access Controlled Highway, Pleasant View and parallel to Hayden, and Lancaster...

18 . . . . . Alternative A – SH-53 Expanded Highway

20 . . . . . Alternative C – US-95 Express Lanes

22 . . . . . Alternative E – Access Controlled Highway, Pleasant View and SH-53

24 . . . . . Alternative F – Access Controlled Highway, SH-41, Greensferry, and SH-53

26 . . . . . Alternative I – Access Controlled Highway, US-95

28 . . . . . Alternative J – Access Controlled Highway, Pleasant View to US-95

30 . . . . . Alternative K – Access Controlled Highway, State Highway 41 to US-95

32 . . . . . Alternative L – Access Controlled Highway, Pleasant View and parallel to Lancaster, SH-53 Expanded Highway, Meyer Road Bypass

34 . . . . . Typical sections – Alternatives L, M, and N

**Alternatives recommended to be retained as an element or carried forward to Level 3**

**Alternatives NOT recommended to be carried forward to Level 3**

Note: Alternative G was consolidated with Alternative E.

## Level 2 Screening Evaluation and Steps

Level 2 screening was comparative — in other words, we examined how each alternative compared to one another

The Level 2 screening process compared to each alternative in a deliberate sequence, looking first at performance, then impacts and benefits, and finally implementation.

-  Recommended to carry forward, meaning the alternative performed well and is being recommended to move on to Level 3 evaluation.
-  Recommended to retain as an element, meaning the alternative didn't perform well on its own, but parts of it could be combined with another alternative to move on to Level 3 screening.
-  Not Recommended, meaning the alternative didn't perform well and is recommended to be dropped from consideration.

### STEP 1: Performance

We considered:

- » **Safety**
- » **Congestion**
- » **Travel time and efficiency**
- » **Network redundancy**  
(multiple routes to get to destinations)
- » **Multimodal options**  
(walking, biking, transit)

East-west and north-south travel patterns were evaluated. Some that perform poorly on their own but improve overall results when combined with other alternatives could still move forward to Level 3 evaluation.

### STEP 2: Impacts and Benefits

We looked at how each alternative supports the goals of the study in terms of:

- » **Compatibility with local and regional planning**
- » **Impacts and benefits to environmental resources**
- » **Impacts and benefits to communities, neighborhoods and local infrastructure**

This step helped identify trade-offs between performance and potential impacts.

### STEP 3: Implementation

We looked at how difficult each alternative would be to build, considering construction impacts and project costs relative to other alternatives.

## Alternative Descriptions

**Alternative A**  
SH-53 expanded highway

**Alternative B**  
US-95 expanded highway

**Alternative C**  
US-95 express lanes

**Alternative D**  
Huetter Road improved arterial

**Alternative E**  
Access controlled highway, Pleasant View and SH-53

**Alternative F**  
Access controlled highway, SH-41, Greensferry, and SH-53

**Alternative H**  
Access controlled highway, Huetter Road

**Alternative I**  
Access controlled highway, US-95

**Alternative J**  
Access controlled highway, Pleasant View to US-95

**Alternative K**  
Access controlled highway, State Highway 41 to US-95

**Alternative L**  
Access controlled highway, Pleasant View and parallel to Lancaster, SH-53 expanded highway, Meyer Road Bypass

**Alternative M**  
Access controlled highway, Pleasant View and parallel to Hayden, Wyoming, and Lancaster, SH-53 expanded highway, Meyer Road Bypass

**Alternative N**  
Access controlled highway, Pleasant View and parallel to Hayden and Lancaster, SH-53 expanded highway, Meyer Road Bypass

Alternatives that were not recommended did not proceed to the next step.

LEVEL 2 ALTERNATIVES	STEP 1	STEP 2	STEP 3
	Performance	Impacts & Benefits	Implementation
A 			
B 			
C 			
D 			
E 			
F 			
H 			
I 			
J 			
K 			
L 			
M 			
N 			

 See individual alternatives for screening rationale

#### KEY:

-  North-South Alternative
-  East-West Alternative
-  Recommend to Carry Forward
-  Recommend to Retain as Element
-  Not Recommended
-  Not evaluated further



# Alternative B

## US-95 Expanded Highway

Level 2 Alternative ID: B  
(North-South)  
Recommended to Retain as Element

### Level 2 Alternative Description

**Alternative B** would add travel lanes to the outside of the existing lanes and improve intersections on US-95 through the study area.

US-95 would include three lanes in each direction with a center median, matched to existing speed limits.

### Comparative Screening Benefits and Challenges

#### Benefits:

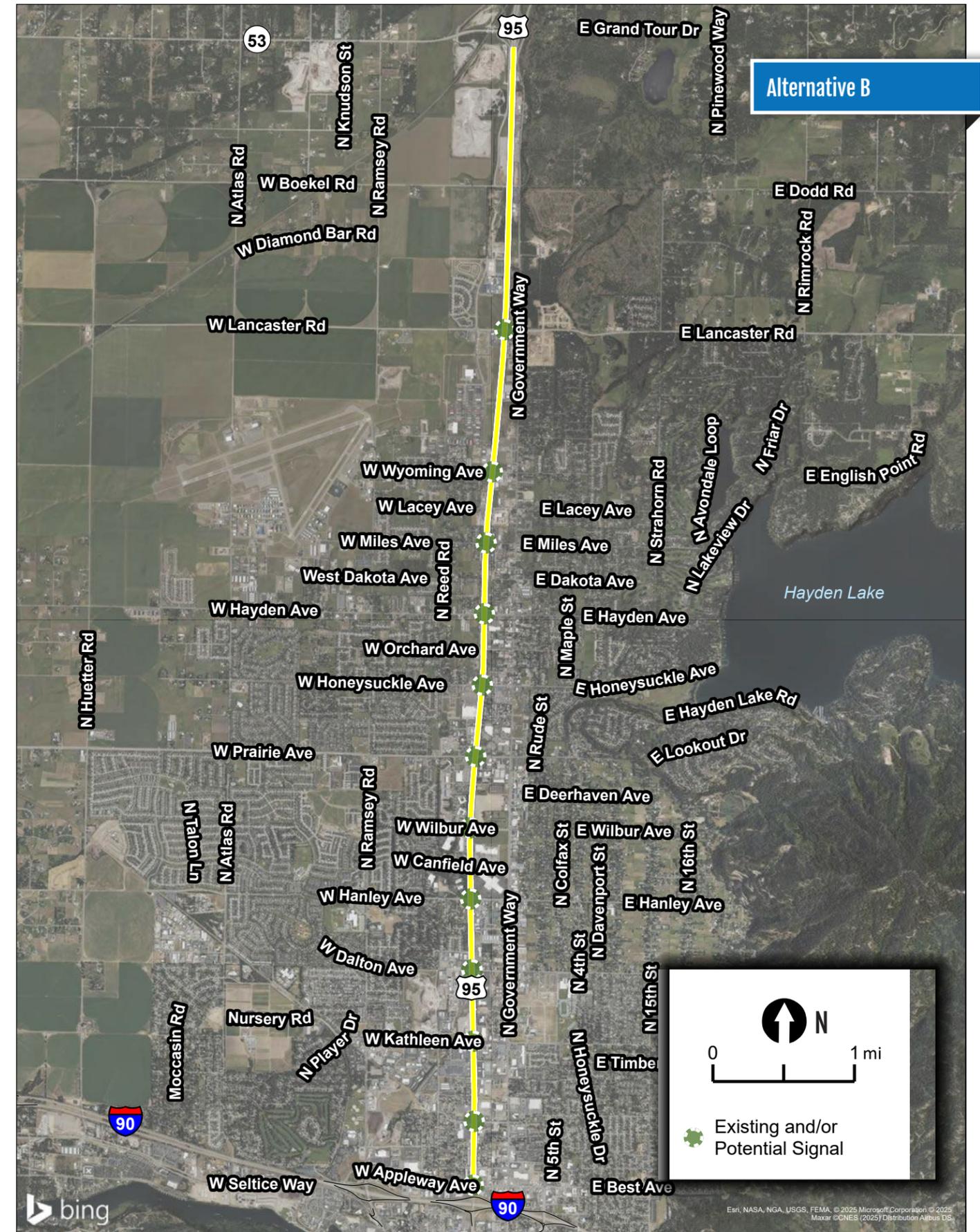
- » Reduces congestion and travel time along US-95 and nearby key corridors.
- » Fewer right of way (0 acres) and environmental impacts than other north-south alternatives.
- » Maintains existing access points.

#### Challenges:

- » Does not address study area performance issues as well as other north-south alternatives.
- » Does not reduce potential crash conflicts at intersections on US-95.
- » Does not provide network redundancy during major incidents.
- » High level of adjacent noise-sensitive properties.

### Typical Section

### US-95 Expanded Highway



# Alternative D

## Huetter Road Improved Arterial

Level 2 Alternative ID: D  
(North-South)  
Recommended to Carry Forward

### Level 2 Alternative Description

**Alternative D** would add a new four-lane arterial with a median/turn lane from I-90 to US-95 following the Huetter Road alignment.

The alternative would add two lanes in each direction with a center turn lane, and a 35-45 mph speed limit.

### Comparative Screening Benefits and Challenges

#### Benefits:

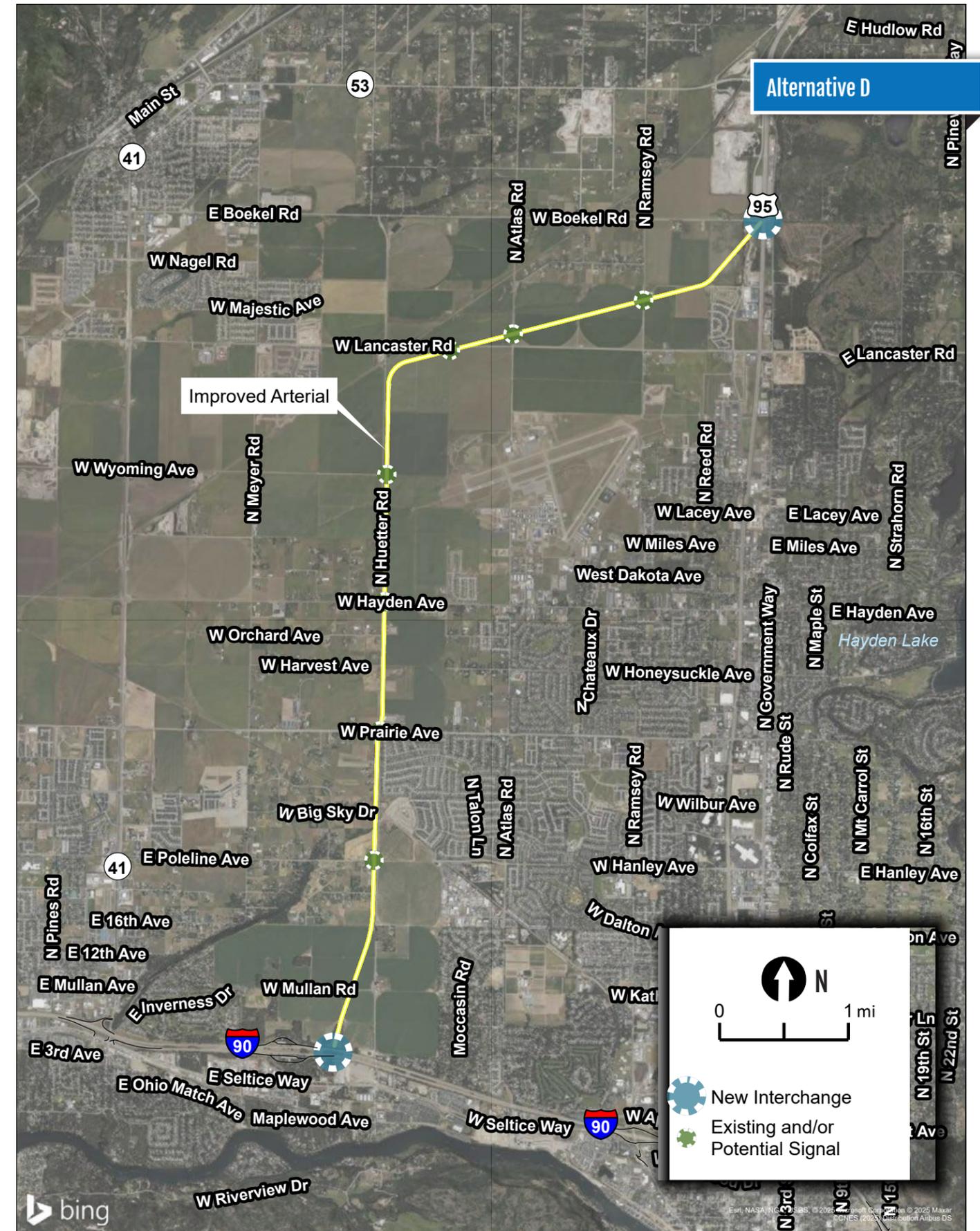
- » Addresses study area congestion, travel efficiency, and network redundancy better than most other north-south alternatives.
- » Reduces congestion and travel time along US-95, SH-41, and nearby parallel roads.
- » Fewer right of way (56 properties, 107 acres) than most other north-south alternatives.
- » Maintains existing access points.
- » Adds new I-90 interchange access.
- » Provides opportunity to connect regional bicycle and pedestrian facilities.

#### Challenges:

- » May be more appropriately implemented as a local facility rather than ITD facility.
- » Increases potential crash conflicts at intersections and driveways on Huetter Road.

### Typical Section

#### Improved Arterial





# Alternative M

Access Controlled Highway, Pleasant View and parallel to Hayden, Wyoming, and Lancaster, SH-53 Expanded Highway, Meyer Road Bypass

Level 2 Alternative ID: M  
(East-West)  
Recommended to Carry Forward



## Level 2 Alternative Description

**Alternative M** would reconstruct Pleasant View Road as an access-controlled highway (with parallel local access roads and interchanges at key crossroads) from I-90 to SH-53.

The alternative would add an access-controlled highway (with parallel local access roads and interchanges at key crossroads) from Pleasant View Road parallel to the Burlington Northern Santa Fe line to run parallel with Hayden Avenue until Idaho Road; then, run up to parallel with Wyoming Avenue from Greensferry Road to Meyer Road; then, parallel to the UPRR line to Lancaster Road, then parallel to Lancaster Road from Huetter Road to Ramsey Road; and then, run along a new alignment going northeast, south of the UPRR line, to connect with US-95 near Boekel Road.

SH-41 and SH-53 north of Rathdrum would be realigned with direct connection to a Meyer Road bypass over the BNSF line to an interchange with the new highway.

Travel lanes and improved intersections would be added to SH-53 from the Pleasant View interchange to Rathdrum. This would include an interchange at McGuire Road to connect into the new highway. A local access road would be added on the north side paralleling SH-53.

The reconstructed Pleasant View Highway and the new highway would both include two lanes in each direction with a center median and a 55 to 65 mph speed limit.

The local access roads would include one lane in each direction, turn lanes at intersections, and a 35 to 45 mph speed limit.

SH-53 would include two lanes in each direction with a center turn lane and a 50 to 55 mph speed limit.

The Meyer Road bypass would include one lane in each direction with turn lanes at intersections and a 35 to 45 mph speed limit.

## Comparative Screening Benefits and Challenges

### Benefits:

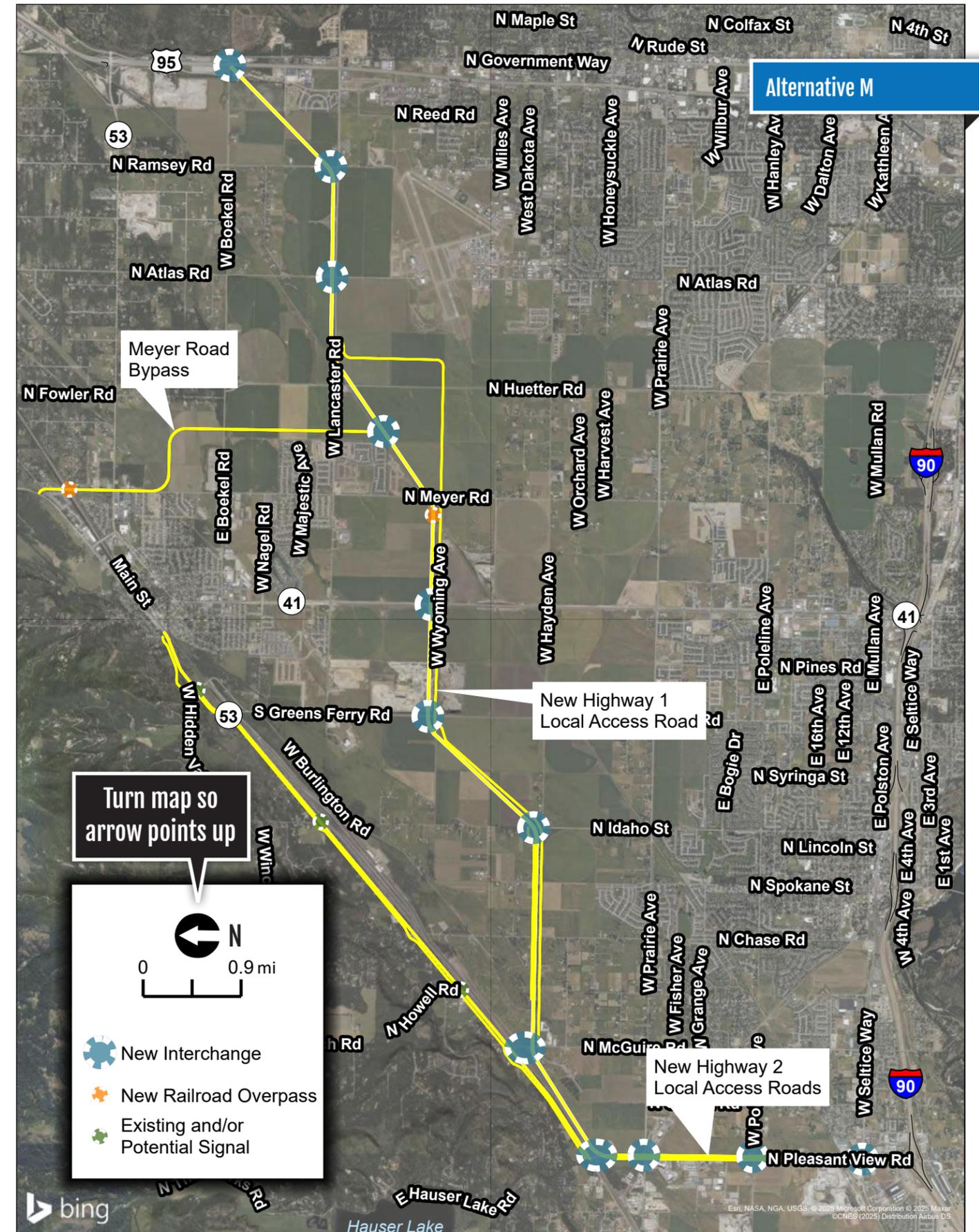
- » Addresses congestion, travel time, and travel efficiency at a high level compared to other east-west alternatives, similar to Alternatives L and N.
- » Provides network redundancy during major incidents.
- » Provides opportunity to connect regional bicycle and pedestrian facilities.
- » Reduces potential crash conflicts at intersections and driveways on alignment, compared to most other east-west alternatives.
- » Adds new railroad overpass/Rathdrum bypass to SH-41, moving traffic out of congested areas.

### Challenges:

- » High level of right of way impacts (276 properties, 603 acres), and high impacts to residential zoned properties (121 acres).
- » High level of impact to floodplains (6 acres), wetlands (3.6 acres) and historic sites (16 sites).
- » High level of adjacent noise-sensitive properties.
- » High cost (compared to other east-west alternatives).

Typical Sections

See page 34.



# Alternative N

Access Controlled Highway, Pleasant View and parallel to Hayden, and Lancaster, SH-53 Expanded Highway, Meyer Road Bypass

Level 2 Alternative ID: N  
(East-West)  
Recommended to Carry Forward

## Level 2 Alternative Description

## Comparative Screening Benefits and Challenges

**Alternative N** would reconstruct Pleasant View Road as access-controlled highway (with parallel local access roads and interchanges at key crossroads) from I-90 to SH-53.

The alternative would add an access-controlled highway (with parallel local access roads and interchanges at key crossroads) from Pleasant View Road parallel to the BNSF line, then parallel to Hayden Avenue Road south of Hayden Avenue to the UPRR line, then parallel to UPRR line to parallel to Lancaster Road from Huetter Road to Ramsey Road, then along a new alignment going northeast south of the UPRR line to connect with US-95 near Boekel Road. SH-41 and SH-53 north of Rathdrum would be realigned with a direct connection to a Meyer Road bypass over the BNSF line to an interchange with the new highway.

Travel lanes and improved intersections would be added on SH-53 from the Pleasant View interchange to Rathdrum. This would include an interchange at McGuire Road to connect into the new highway. A local access road would be added on the north side, paralleling SH-53.

The reconstructed Pleasant View Highway and the new highway would both include two lanes in each direction with a center median and a 55 to 65 mph speed limit.

The local access roads would include one lane in each direction, turn lanes at intersections, and a 35 to 45 mph speed limit.

### Benefits:

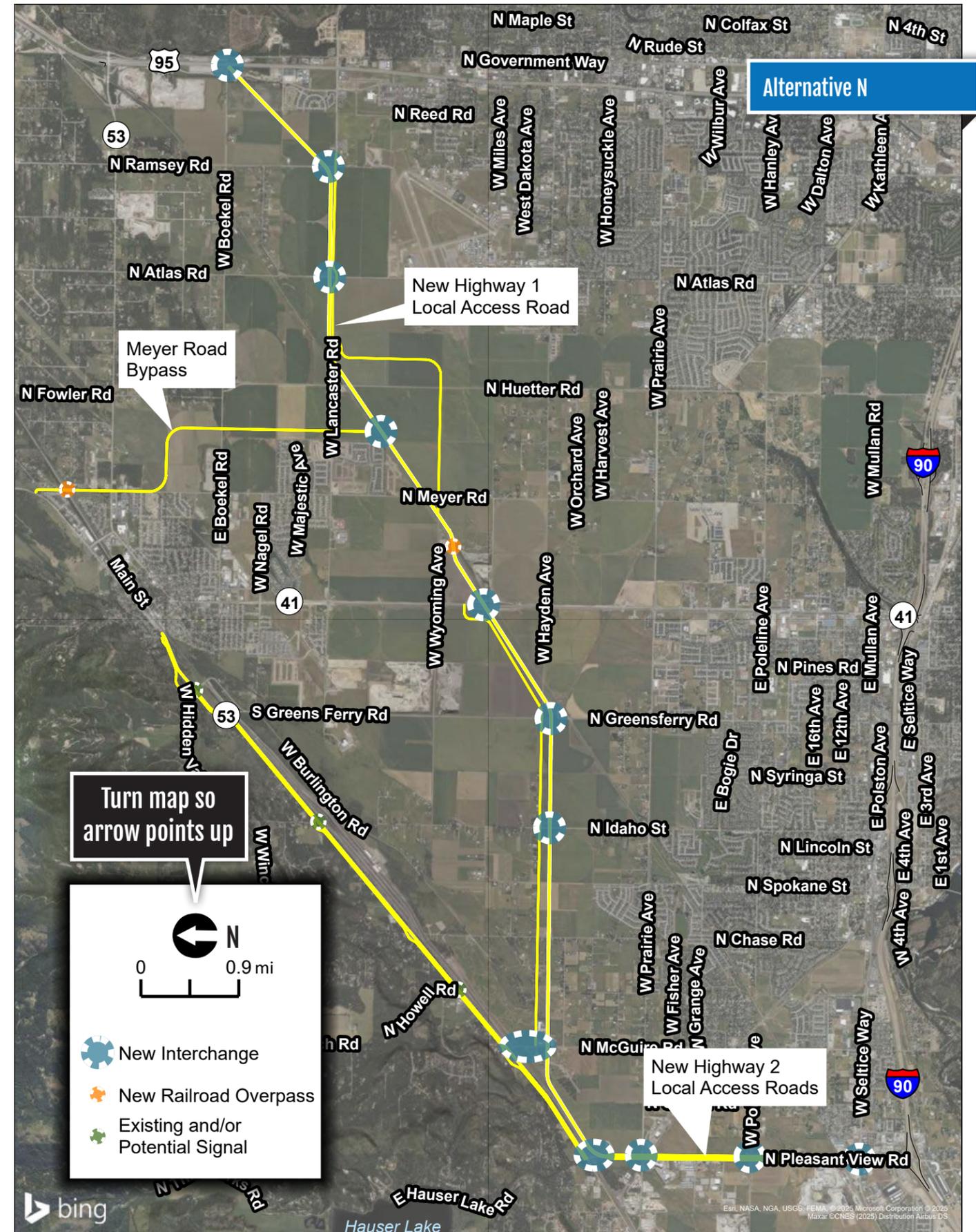
- » Addresses congestion, travel time, and travel efficiency at a high level compared to most other east-west alternatives, similar to Alternatives L and M.
- » Provides network redundancy during major incidents.
- » Provides opportunity to connect regional bicycle and pedestrian facilities.
- » Reduces potential crash conflicts at intersections and driveways on alignment, compared to most other east-west alternatives.
- » Adds new railroad overpass/Rathdrum bypass to SH-41, moving traffic out of congested areas.
- » Lower impacts to residential zoned properties (66 acres) and commercial zoned property impacts (17 acres) than Alternatives L and M.

### Challenges:

- » High level of right of way impacts (326 properties), including greatest total number of acres impacted (731 acres).
- » High level of impact to floodplains (6 acres), wetlands (3.8 acres) and historic sites (19 sites).
- » High level of adjacent noise-sensitive properties.
- » High cost (in line with other east-west alternatives).

Typical Sections

See page 34.



# Alternative A

## SH-53 Expanded Highway

Level 2 Alternative ID: A  
(East-West)  
Not Recommended

### Level 2 Alternative Description

**Alternative A** would add travel lanes and improve intersections on State Highway 53 from the Pleasant View interchange to Rathdrum.

The alternative would add a highway realigning SH-53, north of the City of Rathdrum, from the Greensferry Road intersection, to connect with State Highway 41 with an intersection; then, continue over the BNSF railroad tracks and connect with existing SH-53 to connect with U.S. Highway 95.

SH-53 would include two lanes in each direction with a center turn lane and 50 to 55 mph speed limit.

### Comparative Screening Benefits and Challenges

#### Benefits:

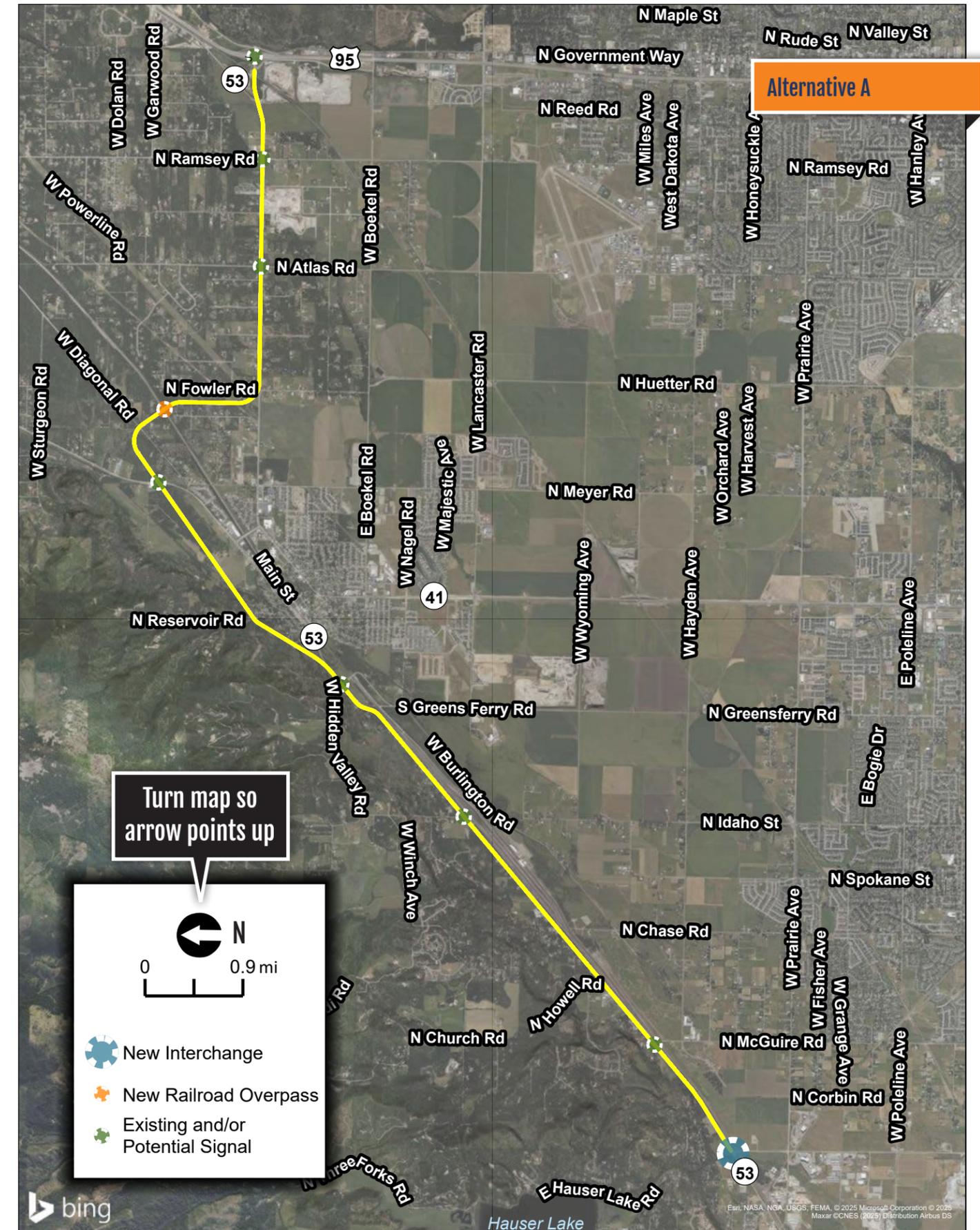
- » Reduces congestion and travel time along SH-53.
- » Adds a new bypass north of Rathdrum, moving SH-53 traffic out of congested areas.

#### Challenges:

- » Would not address study area performance issues as well as other east-west alternatives.
- » Would not reduce congestion and travel time on SH-53 as much as other alternatives.
- » Does not provide network redundancy during major incidents.
- » Does not significantly reduce potential crash conflicts at driveways on SH-53.
- » High level of impacts to wetlands (3.7 acres) and historic sites (11 sites).

### Typical Section

#### SH-53 Expanded Highway



# Alternative C

## US-95 Express Lanes

Level 2 Alternative ID: C  
(North-South)  
**Not Recommended**

### Level 2 Alternative Description

### Comparative Screening Benefits and Challenges

**Alternative C** would add separate express lanes parallel to US-95 that connect to US-95 north of Interstate 90 and south of SH-53. The express lanes would cross over or under the cross streets that intersect US-95, with no access to cross streets.

US-95 keeps the existing lane configuration and would match existing speed limits.

Express lanes would add one lane in each direction with a 60 mph speed limit.

#### Benefits:

- » Reduces congestion and travel time along US-95 and nearby parallel roads.
- » Fewer right of way (33 properties, 2 acres) and environmental impacts than most other north-south alternatives.

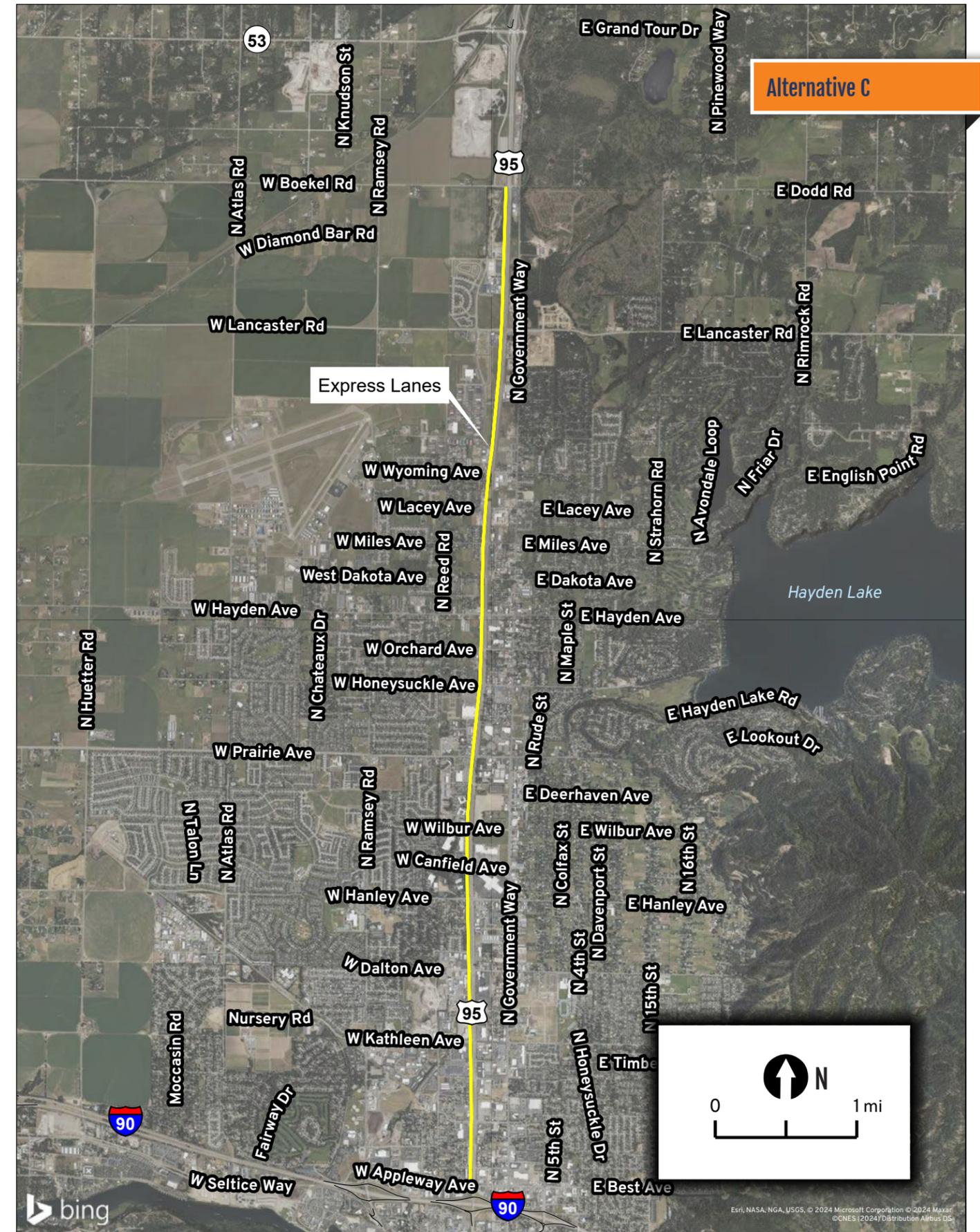
#### Challenges:

- » Does not address study area performance issues as well as other north-south alternatives.
- » Does not reduce potential crash conflicts at intersections on US-95.
- » Limited access from bypass lanes with potential for blockage with crashes.
- » Further divides the community with new grade-separated overpasses.

### Typical Section

#### US-95 Express Lanes

#### Existing US-95



# Alternative E

## Access Controlled Highway, Pleasant View and SH-53

Level 2 Alternative ID: E  
(East-West)  
Not Recommended



### Level 2 Alternative Description

### Comparative Screening Benefits and Challenges

**Alternative E** would reconstruct Pleasant View Road as an access-controlled highway (with parallel local access roads and interchanges at key crossroads) from I-90 to SH-53.

The alternative would reconstruct SH-53 as an access-controlled highway (with parallel local access roads and interchanges at key crossroads) from the state line to Rathdrum, realigning SH-53 north of the City of Rathdrum from the Greensferry Road intersection to connect with SH-41 with an interchange; then, continue over the BNSF railroad tracks and connect with existing SH-53 to connect with US-95.

Pleasant View Road and SH-53 would each have two lanes in each direction with a center median with a speed limit of 55-65 mph.

The local access roads would include one lane in each direction with turn lanes at intersections, and a speed limit of 35-45 mph.

#### Benefits:

- » Reduces congestion and travel time along SH-53, Pleasant View Road, SH-41, and nearby parallel roads.
- » Generally addresses study area travel time and travel efficiency.
- » Provides network redundancy during major incidents.
- » Reduces potential crash conflicts at intersections and driveways on alignment, compared to most other east-west alternatives.
- » Adds a new bypass north of Rathdrum, moving SH-53 traffic out of congested areas.

#### Challenges:

- » Highest level of impacts to residential zoned properties (345 acres).
- » High level of floodplain (14 acres), wetland (8.1 acres), and historic site impacts (16 sites).
- » Would not provide as much access to SH-53 as other alternatives.
- » High cost (compared to other east-west alternatives).

### Typical Sections

#### Local Access Road

#### SH-53



#### Local Access Road

#### New Highway

#### Local Access Road





# Alternative I

## Access Controlled Highway, US-95

Level 2 Alternative ID: I  
(North-South)  
Not Recommended



### Level 2 Alternative Description

### Comparative Screening Benefits and Challenges

**Alternative I** would reconstruct US-95 as an access-controlled highway (with parallel local access roads and interchanges at key crossroads) through the study area.

US-95 would include two lanes in each direction with a center median and a 55 to 65 mph speed limit.

The local access road would include one lane in each direction with turn lanes at intersections and a 35 to 45 mph speed limit.

#### Benefits:

- » Reduces congestion and travel time along US-95 and nearby parallel roads.
- » Reduces potential crash conflicts at intersections on US-95, compared to some other north-south alternatives.

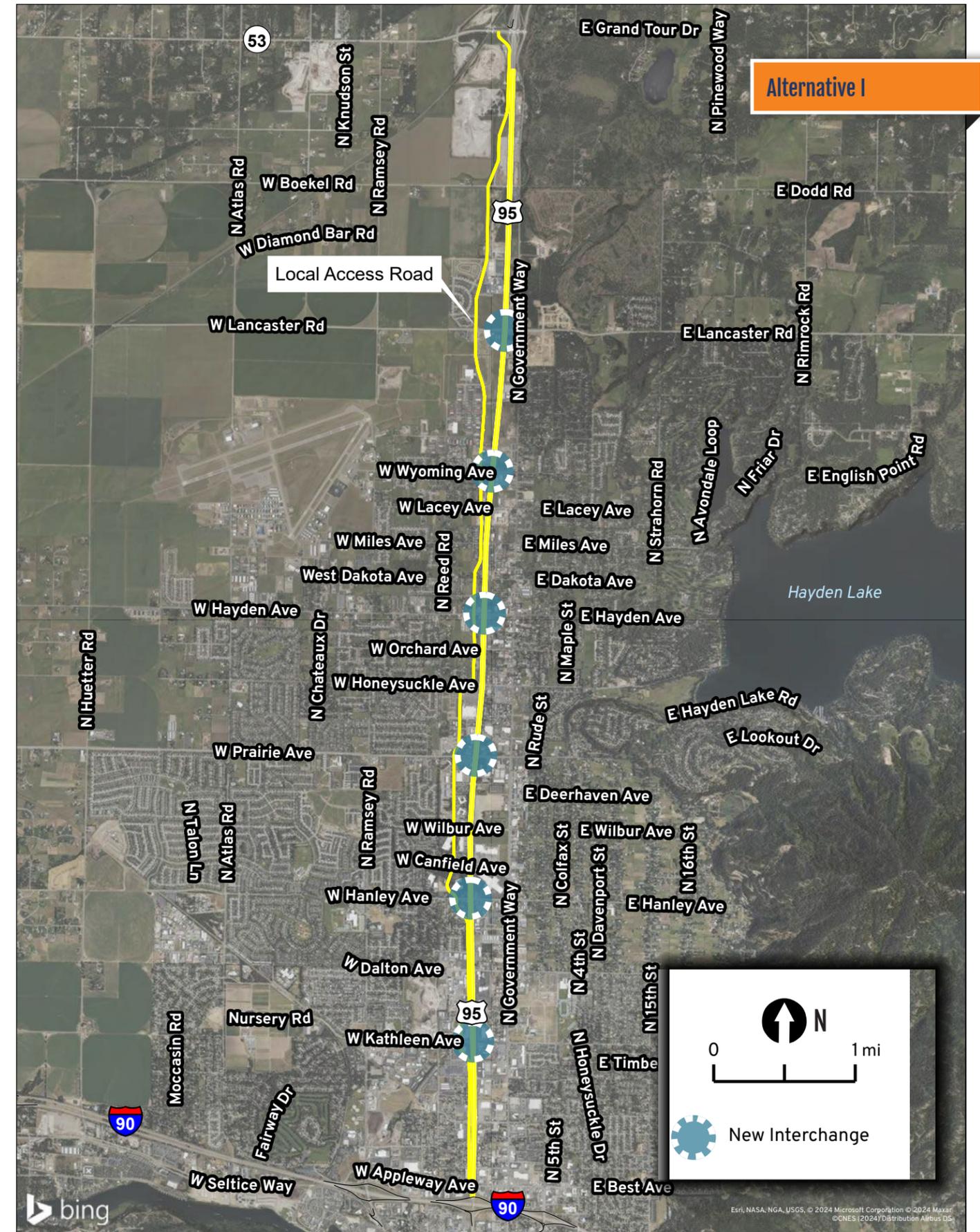
#### Challenges:

- » Does not address study area congestion or travel efficiency as well as other north-south alternatives.
- » Does not provide network redundancy during major incidents.
- » High number of properties impacted compared to other north-south alternatives (359 properties), including 75 acres of commercial property.
- » High level of adjacent noise-sensitive properties.
- » Further divides the community with new grade-separated overpasses.

### Typical Section

#### Local Access Road

#### US-95



# Alternative J

## Access Controlled Highway, Pleasant View to US-95

Level 2 Alternative ID: J  
(East-West)  
Not Recommended

### Level 2 Alternative Description

**Alternative J** would reconstruct Pleasant View Road as an access-controlled highway (with parallel local access roads and interchanges at key crossroads) from I-90 to a new highway.

The alternative would add an access-controlled highway (with parallel local access roads and interchanges at key crossroads) parallel to the UPRR line from Pleasant View Road to Lancaster Road, then along a new alignment going northeast, south of the UPRR line, to connect with US-95 near Boekel Road.

The reconstructed Pleasant View highway and the new highway would both have two lanes in each direction, with a center median and a 55 to 65 mph speed limit.

The local access roads would include one lane in each direction with turn lanes at intersections and a 35 to 45 mph speed limit.

### Comparative Screening Benefits and Challenges

#### Benefits:

- » Reduces congestion along I-90 and nearby parallel roads.
- » Reduces potential crash conflicts at intersections on alignment, compared to some other east-west alternatives.
- » Addresses study area congestion similarly to other east-west alternatives.

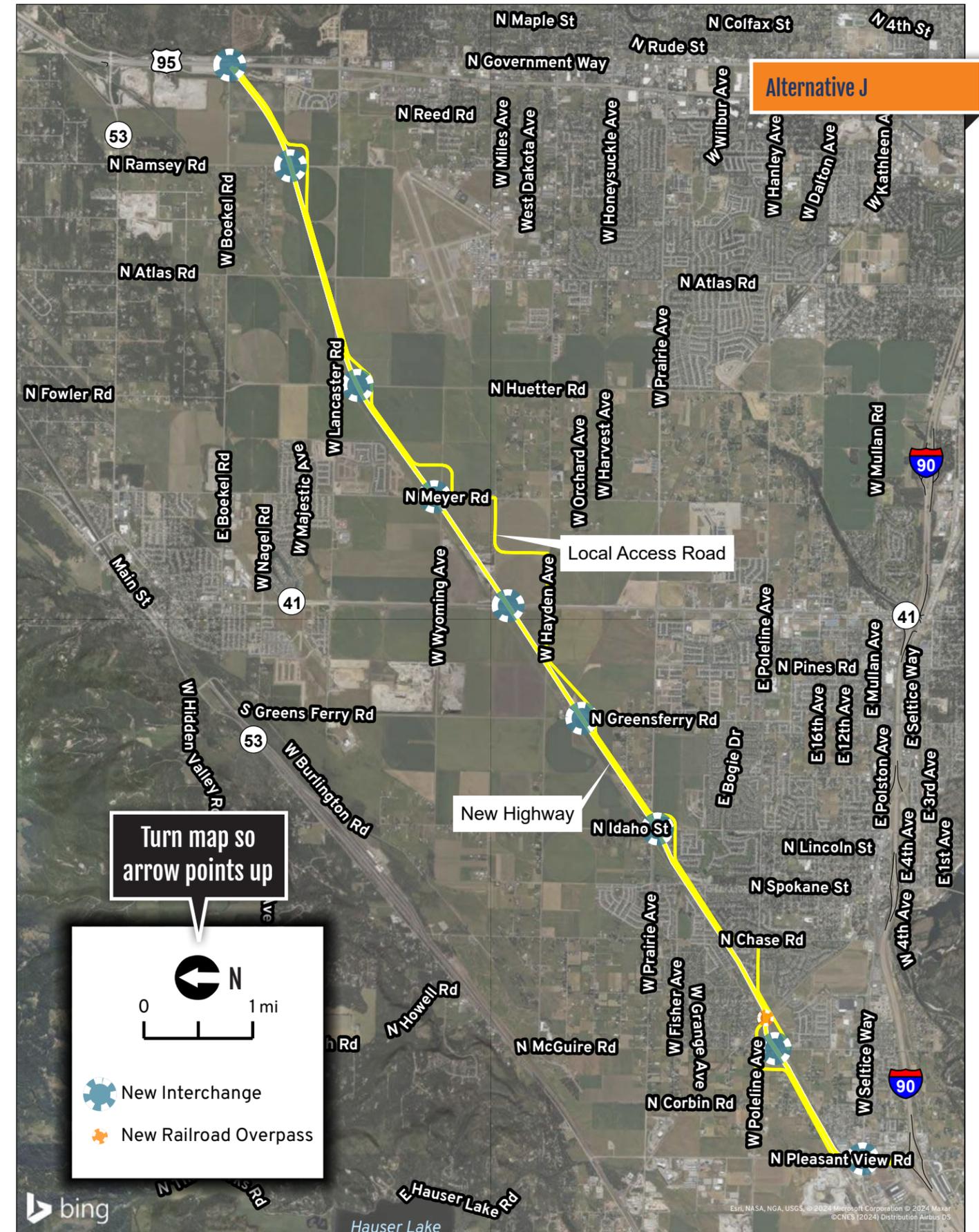
#### Challenges:

- » High level of right of way impacts (433 properties, 629 acres).
- » High impact to residential zoned properties (214 acres).
- » Further divides the community with new highway corridor next to freight rail line.
- » High level of adjacent noise-sensitive properties.
- » High cost (compared with other east-west alternatives).

### Typical Section

#### New Highway

#### Local Access Road



# Alternative K

## Access Controlled Highway, SH-41 to US-95

Level 2 Alternative ID: K  
(North-South)  
Not Recommended

### Level 2 Alternative Description

**Alternative K** would reconstruct SH-41 as an access-controlled highway (with parallel local access roads and interchanges at key crossroads) from I-90 to Hayden Avenue, and connecting to a new alignment going northeast, south of the UPRR line, to connect with US-95 near Boekel Road.

The reconstructed and new SH-41 would both include two lanes in each direction with a center median and a 55 to 65 mph speed limit.

The local access roads would include one lane in each direction with turn lanes at intersections and a 35 to 45 mph speed limit.

### Comparative Screening Benefits and Challenges

#### Benefits:

- » Provides opportunity for new corridor with bike facilities.
- » Reduces potential crash conflicts at intersections and driveways on alignment.

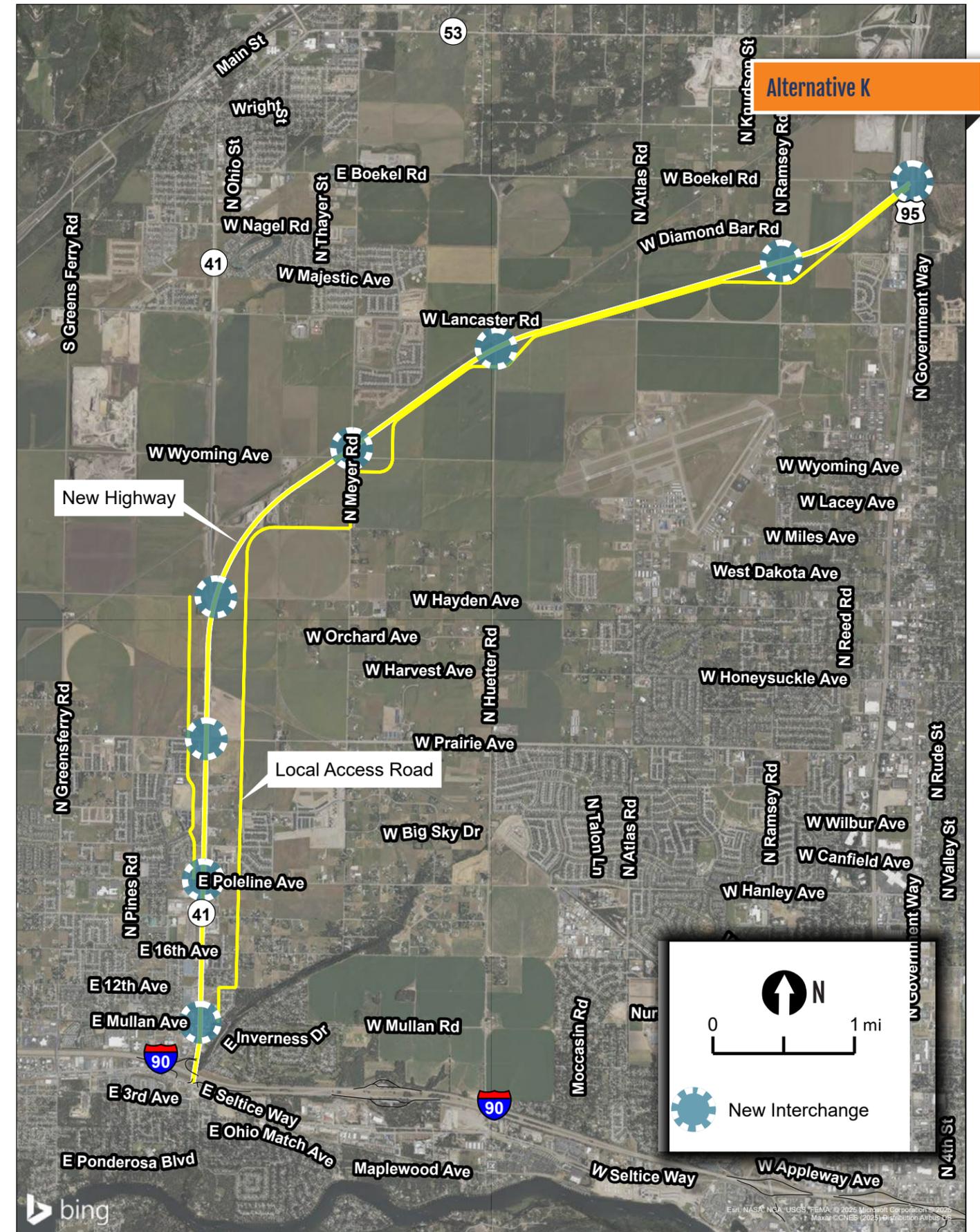
#### Challenges:

- » Does not address congestion, travel time or travel efficiency as well as some other north-south alternatives.
- » High level of right-of-way impacts (428 acres).
- » Does not benefit SH-41 as much as Alternatives D and H.
- » Divides community by widening existing barrier of SH-41.
- » High level of impact to historic sites (16 sites) compared to most other north-south alternatives.

### Typical Section

#### New Highway

#### Local Access Road



# Alternative L

Access Controlled Highway, Pleasant View and parallel to Lancaster, SH-53 Expanded Highway, Meyer Road Bypass

Level 2 Alternative ID: L (East-West)

 Not Recommended

## Level 2 Alternative Description

## Comparative Screening Benefits and Challenges

**Alternative L** would reconstruct Pleasant View Road as access-controlled highway (with parallel local access roads and interchanges at key crossroads) from I-90 to SH-53.

The alternative would add an access-controlled highway (with parallel local access roads and interchanges at key crossroads) from Pleasant View Road parallel to the BNSF line to run parallel with Lancaster Road to connect with US-95.

SH-41 and SH-53 north of Rathdrum would be realigned with direct connection to a Meyer Road bypass over the BNSF line to an interchange with the new highway.

Travel lanes and improved intersections would be added on SH-53 from the Pleasant View interchange to Rathdrum and would include an interchange at McGuire Road to connect into the new highway. A local access road would be added on the north side paralleling SH-53.

The reconstructed Pleasant View Highway and new highway would both include two lanes in each direction with a center median and a 55 to 65 mph speed limit.

The local access roads would include one lane in each direction, turn lanes at intersections, and a 35 to 45 mph speed limit.

SH-53 would include two lanes in each direction with a center turn lane and a 50 to 55 mph speed limit.

The Meyer Road bypass would include one lane in each direction with turn lanes at intersections and a 35 to 45 mph speed limit.

### Benefits:

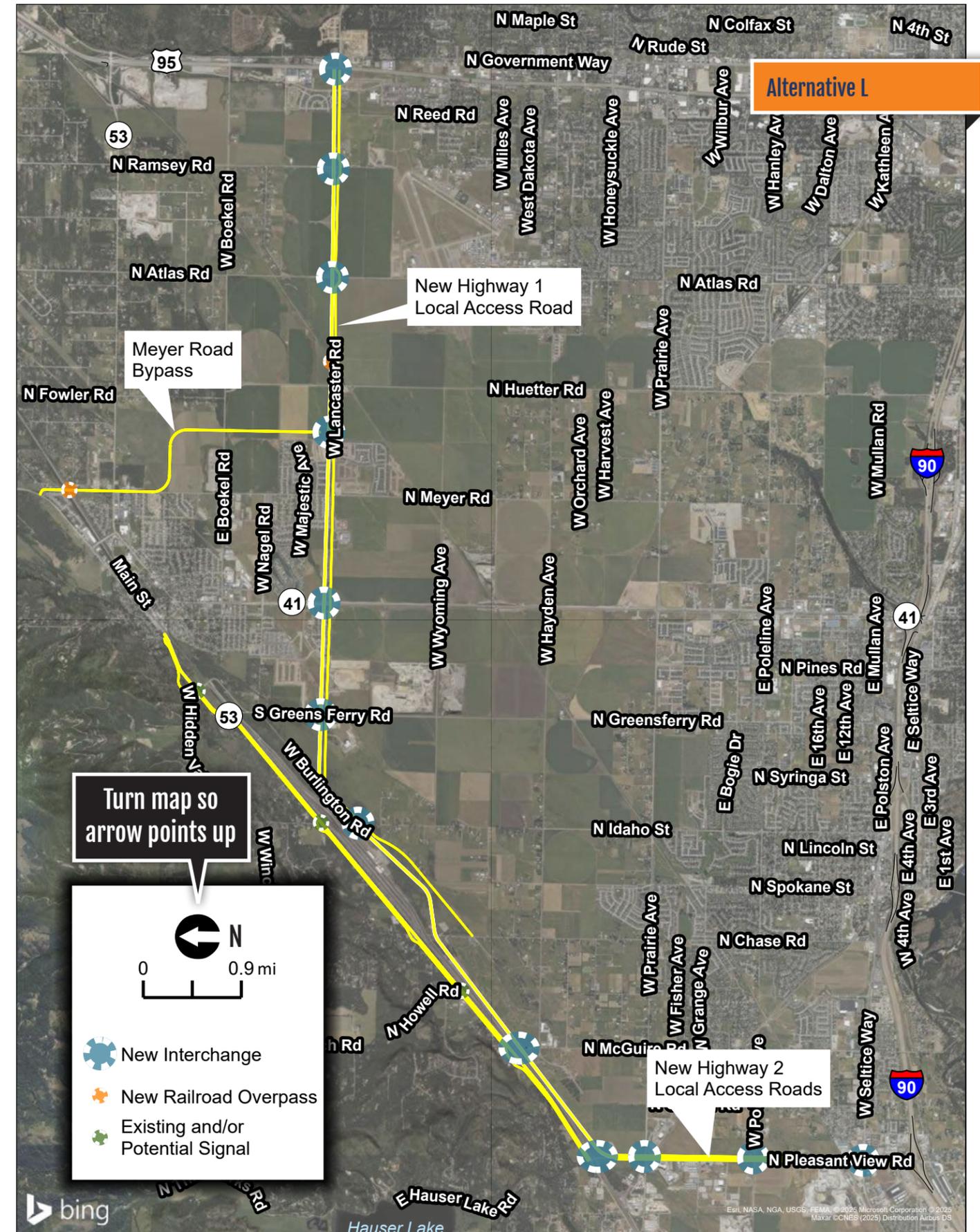
- » Addresses congestion and travel time at a high level compared to other east-west alternatives, similar to Alternatives M and N.
- » Provides network redundancy during major incidents.
- » Provides opportunity to connect regional bicycle and pedestrian facilities.
- » Adds new railroad overpass/Rathdrum bypass to SH-41, moving traffic out of congested areas.

### Challenges:

- » Greatest number of total properties impacted for east-west alternatives (478 properties).
- » High residential zoned property impacts (107 acres).
- » Higher commercial zoned property impacts (30 acres) than Alternatives M and N.
- » High level of impact to floodplains (6 acres) and wetlands (4.3 acres).
- » Greatest number of historic properties impacted for east-west alternatives (21 sites).
- » High level of adjacent noise-sensitive properties.
- » High cost (in line with other east-west alternatives).

Typical Sections

See page 34.







**RATHDRUM PRAIRIE**  
AREA TRANSPORTATION STUDY

If you have questions, please contact the study team:  
[info@rathdrumprairiepel.com](mailto:info@rathdrumprairiepel.com)

### Share your input.

Visit the online meeting by scanning the QR code and submitting a comment form or mailing one to:



ITD District 1  
Attn: Carrie Ann Hewitt, P.E.  
600 W. Prairie Ave.  
Coeur d'Alene, ID 83815-8764

Comments are due by **Wednesday, Oct. 1, 2025.**

Your feedback helps guide our work, but individual or collective input isn't the same as a 'vote' — the design team also considers safety, engineering, budget, and other factors when making final decisions.





# Attachment B: Level 2 Traffic Operations Analysis Memo



# Level 2 Traffic Operations Analysis Memo

Date: Thursday, May 08, 2025

Project: Rathdrum Prairie PEL Study

To: Carrie Ann Hewitt, ITD District 1

From: HDR

Subject: Rathdrum Prairie PEL Level 2 Traffic Operations Analysis Memo

## Introduction

The Idaho Transportation Department (ITD) District 1, along with the Kootenai Metropolitan Planning Organization (KMPO) and the Federal Highway Administration (FHWA), is leading the Rathdrum Prairie Planning and Environmental Linkages (PEL) study. The intent of the study is to evaluate the state highway and local roadway system within the Rathdrum Prairie area to determine deficiencies, define a purpose and need for future corridors and/or enhancements, and to identify and move the top priority projects into National Environmental Policy Act (NEPA) actions, design, and eventually construction.

The objective of the Level 2 traffic operations analysis is to provide a quantitative assessment of each alternative's benefits and/or impacts to the transportation system in the Rathdrum Prairie area. This memo describes the methods for assessing traffic operations for the Level 2 alternatives as part of the Rathdrum Prairie PEL. At the Level 2 stage of the PEL, the analysis is based on travel demand model outputs and is considered a macroscopic analysis of future conditions of the year 2045. Alternatives selected for Level 2 analysis were evaluated against each other under future conditions of the year 2045 and with respect to the future No-Build condition of the year 2045.

The analysis focuses on regional travel patterns and analysis of study area roadways in the KMPO travel demand model. The model operates on the PTV Visum macrosimulation software platform. Study area roadways include ITD facilities as well as local/regional roadways. The roadway corridors for analysis were selected based on coordination with ITD and KMPO. Those roadway corridors are listed below:

1. US-95: I-90 to SH-53
2. I-90: State Line to US-95
3. SH-41: I-90 to SH-53
4. SH-53: State Line to US-95
5. Government Way: Appleway Ave to SH-53
6. Prairie Ave: Pleasant View Rd to US-95
7. Ramsey Rd: I-90 to SH-53
8. Huetter Rd: Seltice Way to Lancaster Rd
9. Poleline Ave/Hanley Ave: Spokane St to US-95



- 10. Pleasant View Rd: I-90 to SH-53
- 11. Greensferry Rd: Seltice Way to SH-53

The following section discusses the traffic operations criteria applied to each Level 2 alternative.

## Traffic Operations Criteria

The Level 2 traffic operations analysis evaluates the alternatives under the following criteria: traffic congestion, travel time, travel efficiency, and network redundancy or resiliency. The analysis uses the following measures of effectiveness to analyze the criteria: segment volume to capacity ratio (V/C ratio), corridor travel time, vehicle-miles traveled (VMT), and vehicle-hours traveled (VHT). Specific scoring criteria were developed based on these measures of effectiveness under the evaluation criteria.

### Congestion

This criterion quantifies the ability of each alternative to relieve congestion throughout the study area. Congestion was measured on roadways as a ratio of traffic volume to roadway capacity (volume to capacity ratio or V/C ratio). Alternatives that address congestion in the study area will show improvements in the V/C ratio compared to the No-Build condition.

Volume to Capacity Ratio:

$$V/C = \frac{V_{model}}{Cap}$$

Where:

$V_{model}$  = travel demand model peak hour directional volume

Cap = theoretical peak hour directional capacity

The travel demand model calculates V/C ratios on each link for the AM and PM peak hours. To evaluate congestion on study area roadways, each corridor was divided into segments (which typically consists of multiple links in the model). Links are varied in length depending on the spacing between intersections/interchanges.

A single link within each defined segment was selected as a “representative link” for that segment. Representative links generally were selected without auxiliary lanes and with higher traffic volumes in the no-build models compared to other links along the corridor segment. The representative links generally provide the best representation of a segment in terms of traffic volume and geometric conditions. The representative links are consistent across all alternatives to provide a direct analysis.

The congestion criterion was measured by counting the number of segments (i.e. a segment’s representative link) on study area roadways that fail to meet ITD’s acceptable Level of Service (LOS) for traffic operations. An acceptable performance is LOS D or better, which is equivalent to a V/C ratio below 0.9. Thus, segments operating at LOS E or worse (V/C ratio of 0.9 or



above) were tabulated. Alternatives with a higher number of segments exceeding the V/C threshold of 0.9 score lower with the congestion criterion.

## Travel Time

This criterion quantifies the ability of each alternative to improve travel times along selected roadway corridors within the study area. Travel time in the travel demand model includes time to traverse roadway links and delay at nodes (intersections or merge points).

The free flow speeds and lengths of roadway links are combined with the base node delays to estimate uncongested or “free flow” travel time along each corridor listed above. The travel demand model produces a “congested” travel time for each corridor by applying a volume-delay function that reduces vehicular speed and increases node delay based on V/C ratios.

The existing year 2023 travel demand model travel times were compared to observed travel times from Google Maps and INRIX. Most of the corridors in the model had travel times within 20% of what was observed. Therefore, the model provides a reasonable approximation of travel times under current congested conditions.

Congested AM and PM peak hour travel times along each study area roadway, in each direction, are compared to the No-Build condition. The difference in travel time for an alternative along a given corridor from the No-Build condition was used to measure the travel time benefit of the alternative. Peak hour travel time savings of each corridor in each alternative was weighted by the average traffic volume along the corridor so that higher volume roadways are given greater emphasis. The travel time savings score is the sum of the AM and PM peak hour travel time savings of all corridors in an alternative weighted by the average volume along each corridor. The travel time savings score was measured in vehicle-minutes.

Travel Time Savings Score:

$$TTSS_j = \sum_k TTSS_{j,k}$$

Where:

TTSS<sub>j</sub> = Travel Time Savings Score for Alternative j (vehicle-minutes)

TTSS<sub>j,k</sub> = Travel Time Savings Score for Alternative j, in peak hour k (vehicle-minutes)

k = AM and PM peak hours

And:

$$TTSS_{j,k} = \frac{\sum_{i=1}^n (TTS_{i,j,k} \times V_{i,j,k})}{n}$$

Where:

TTS<sub>i,j,k</sub> = Travel time savings in minutes of path i, in alternative j, in peak hour k



$V_{i,j,k}$  = Average peak hour traffic volume along path i, in Alternative j, in peak hour k

n = number of paths analyzed

And:

$$TTS_{i,j,k} = T_{i,NB,k} - T_{i,j,k}$$

Where:

$T_{i,j,k}$  = travel demand model congested travel time in minutes of path i, in Alternative j, in peak hour k

$T_{i,NB,k}$  = travel demand model congested travel time in minutes of path i, in the No-Build condition, in peak hour k

A greater travel time savings score indicates an alternative improved travel times significantly along corridors within the study area. Lower travel time savings scores indicate that an alternative does not improve travel times along corridors within the study area as well as others.

It is important to note that these travel times were calculated within the travel demand model. Due to limitations in the model, the volume-delay function used to compute travel times may artificially inflate travel times on links where volumes exceed capacity. The project team carefully reviewed travel time outputs and, where necessary, adjusted outputs that were deemed to be egregious.

## Travel Efficiency

This criterion quantifies the overall efficiency of the entire roadway network within the travel demand model. The model covers an area much larger than the Rathdrum Prairie PEL study area. Therefore, small changes in the overall travel efficiency of the entire model area will be more impactful within the study area.

The travel demand model computes the following global metrics for the entire network: vehicle-miles traveled (VMT) and vehicle-hours traveled (VHT). With the factors (total number of trips, travel model distribution, etc.) remaining same, a reduction in VHT compared to the No-Build condition means travelers are on average taking less time to travel to their destinations and travel efficiency is improved. This reduction in VHT may be accompanied by a decrease or an increase in VMT depending on the improvement.

Alternatives score better on the travel efficiency criteria if both VMT and VHT are improved as a result. Alternatives that show less improvement or a negative impact on VMT and VHT compared to the No-Build condition score worse on the travel efficiency criteria.

## Network Redundancy

This criterion quantifies the ability of each alternative to respond to major incidents occurring on the network. Due to the large study area and variance in alternative alignments, four (4) different “incident” scenarios were evaluated, one for each ITD facility (I-90, US-95, SH-41, and SH-53).



The incident scenarios evaluated significantly reduced capacity in both directions, simulating a major crash or similar event. Incident locations were selected in coordination with KMPO and sensitivity testing was conducted within the model to determine the locations where the broadest shifts in traffic patterns were observed. The incident scenarios are listed and summarized below:

- I-90 Incident Scenario: Mainline I-90 reduced to a capacity of 250 vehicles per lane per hour in both directions, 2 lanes each direction, just east of SH-41.
- US-95 Incident Scenario: US-95 reduced to a capacity of 250 vehicles per lane per hour in both directions, 1 lane each direction, from Prairie Avenue to Honeysuckle Avenue.
- SH-41 Incident Scenario: SH-41 reduced to a capacity of 250 vehicles per lane per hour in both directions, 1 lane each direction, from Prairie Avenue to Hayden Avenue.
- SH-53 Incident Scenario: SH-53 reduced to a capacity of 250 vehicles per lane per hour in both directions, 1 lane each direction, from Idaho Road to Chase Road.

The locations of the incidents are the same across all alternatives to provide a direct comparison.

Congestion metrics were used to evaluate the relative impacts of the incidents on network operations. Congestion redundancy was measured using a similar method as the “no incident” analysis. The number of segments on study area roadways that exceeded the V/C threshold of 0.9 (LOS E or worse) were totaled up across all four incident scenarios in each alternative. Fewer segments exceeding the threshold across all four incident scenarios is an indication that the network can handle the travel pattern changes due to the incidents reasonably well. Alternatives with more segments exceeding the threshold would show less redundancy and score worse on the Redundancy criterion.

## Relative Rating for Level 2 Screening

The alternatives will receive numerical scores for each criterion based on how well they perform. Alternatives will be assigned a score of 1 through 5, where the worst performance is assigned a “1”, a neutral performance is assigned a “3”, and the best performance is assigned a “5”.

Alternatives are assigned scores based on their relative performance. It is possible that no alternatives receive a score of “5” in a certain criterion if no alternatives perform significantly better than others. Similarly, it is possible that no alternatives receive a score of “1” if none perform significantly worse than others.