Clackamas County Transportation System Plan Update

Geographic Area Project Meeting #3a

Clackamas Regional Center/ Industrial Area

March 11th, 2013

Meeting Agenda

- Introductions, Meeting Purpose and Outcomes
- Schedule/Process
- Overview of Project Prioritization Process
- Southwest Connector Area
  - Area Needs
  - Proposed Projects/Solutions
  - Issues/Concerns
- Public Comments
- Discussion and Recommendations
- Next Steps

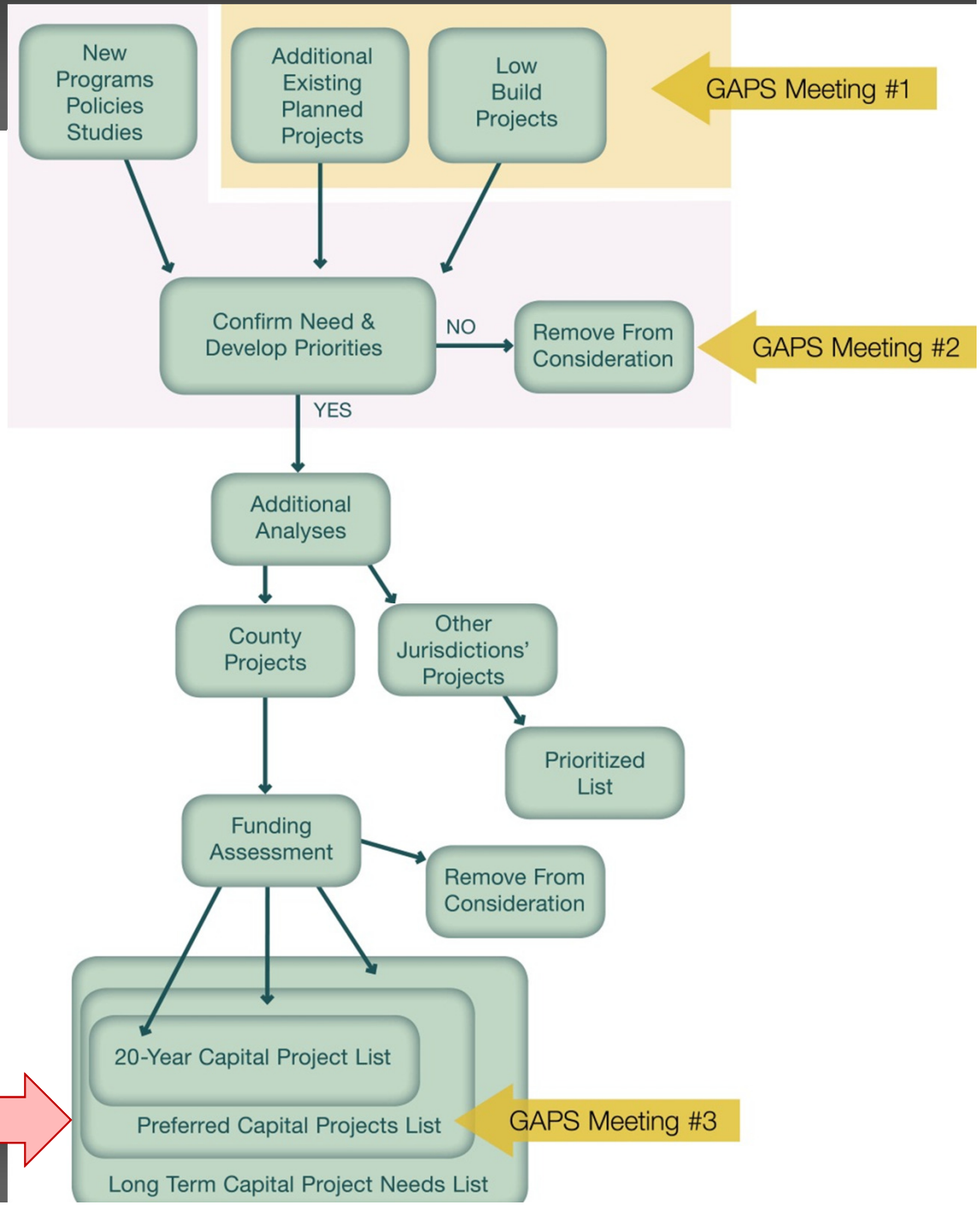
Meeting Purpose

- Review and discuss the project prioritization process and initial results for projects within the vicinity of the Southwest Connector Area
  - Rest of CRC/IA to be discussed 3/18 (3-5 p.m.)
- Identify preferred projects where alternatives have been identified
- Recommend preferred projects and prioritization of projects for the Project Advisory Committee (PAC) to consider in their prioritization process.

Project Updates

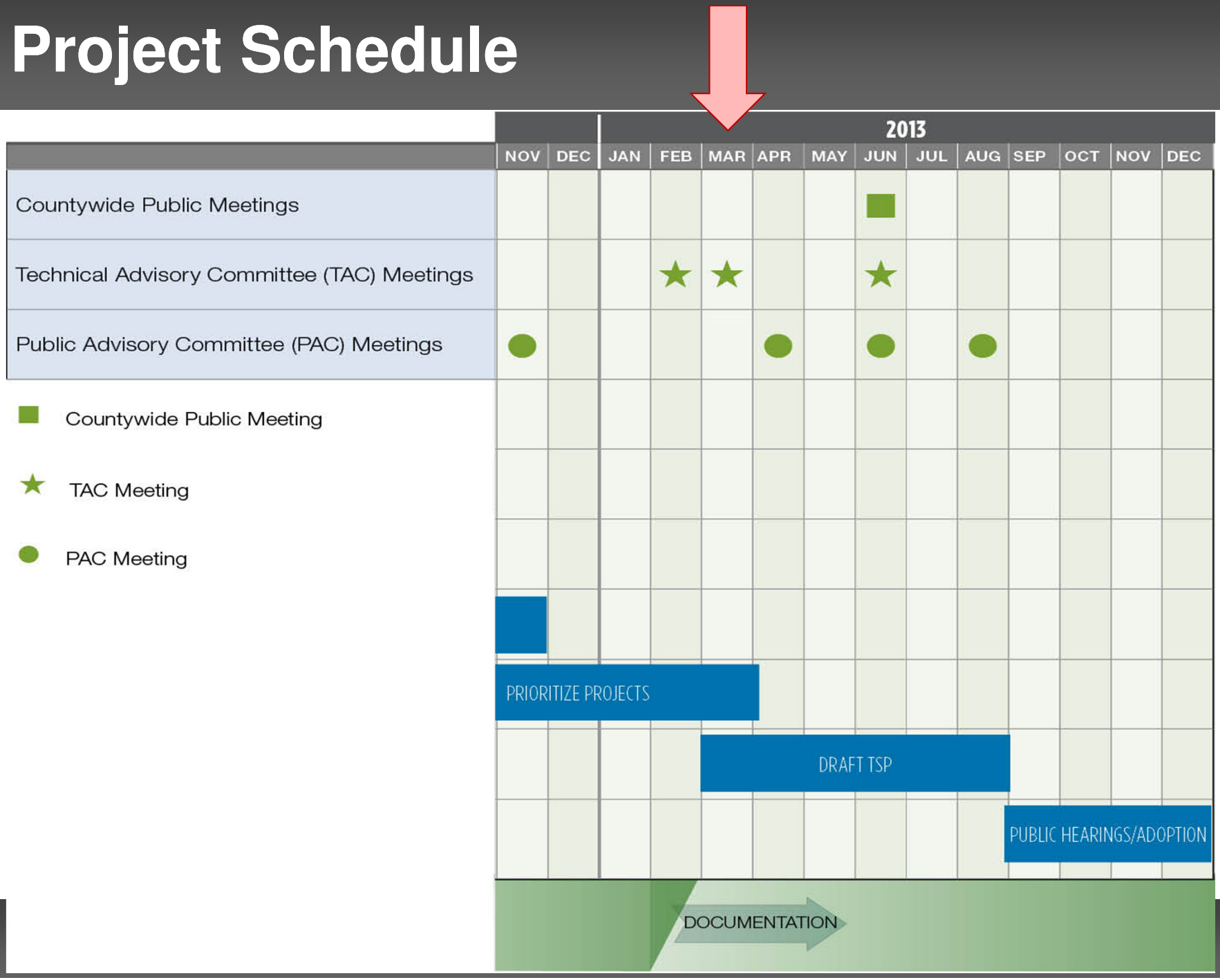
Since GAPS Meeting #2, we have completed:

- Funding Assessment
- Additional Analysis
- Cost Estimation
- Project Scoring
- Draft Prioritization



WE ARE HERE

Project Schedule



Prioritization Process

- Projects initially scored based on:
  - Goals 1 – 6 Evaluation Criteria
  - 70% Growth Analysis
  - DTA Analysis
  - Identified Needs (Gaps and Deficiencies)
- County projects will be prioritized based on initial scoring and additional input from the PMT, PAC, TAC, public, and other stakeholders
- ODOT projects will be prioritized based on initial scoring

Prioritization Process

- Projects prioritized by total score within sub-area
- Projects will ultimately be divided in to 3 lists countywide:
  1. **20-Year Capital Projects**: highest ranking, about 15% of total projects, totaling about $444m
  2. **Preferred Capital Projects**: second tier projects, about 15% of total projects, totaling about $444m
  3. **Long-Term Capital Project Needs**: remaining projects

Southwest Connector Area Projects

- What are the projects?
- History of how these projects came into existence
- What are the projects trying to address?
- Where do we go from here?

Draft Projects - Southwest Connector Area

CLACKAMAS COUNTY TRANSPORTATION SYSTEM PLAN Update

Master List County Projects
- Tier 1
- Tier 2
- Tier 3

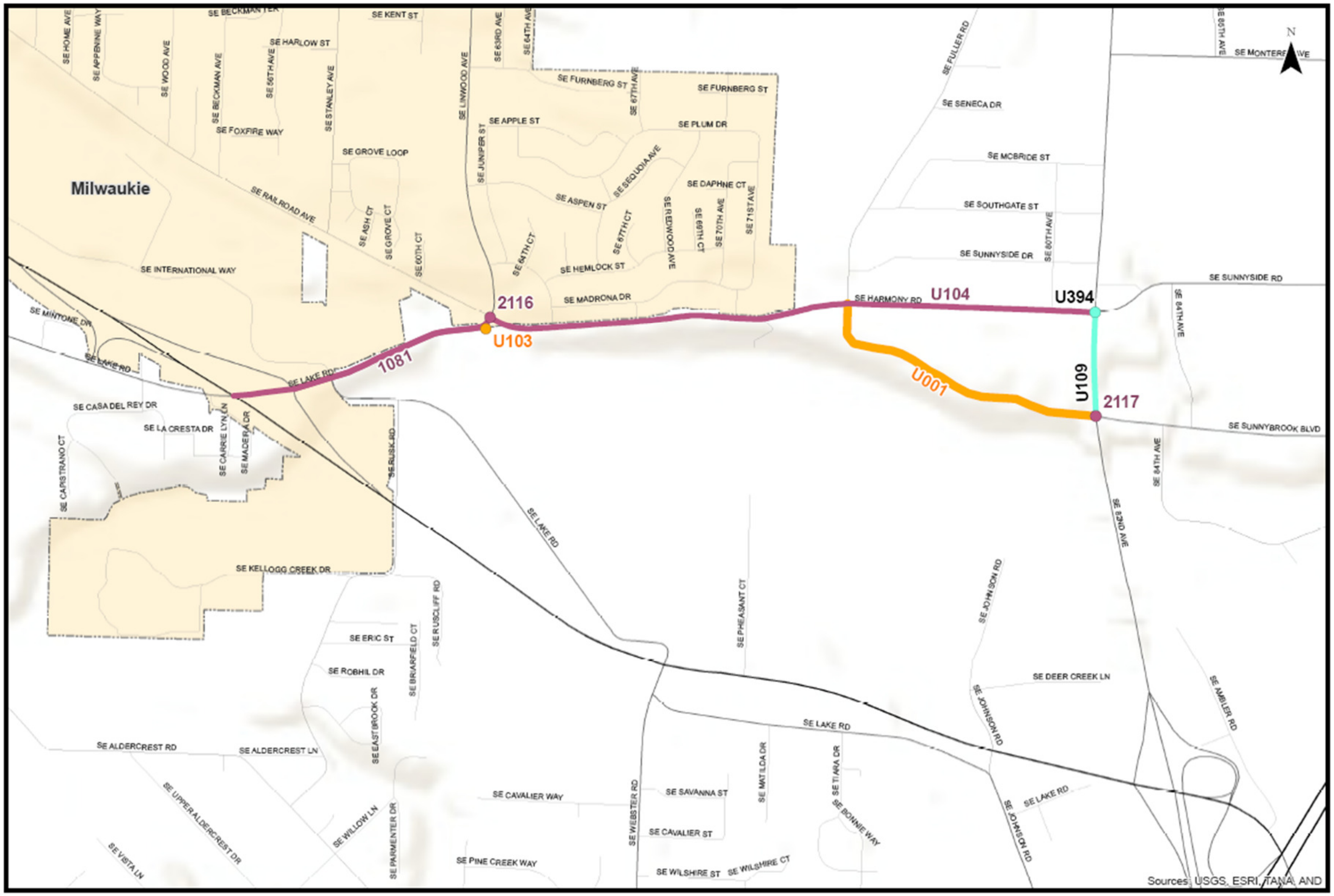
Master List ODOT Projects
- Tier 1
- Tier 2
- Tier 3

Multi-Use Path

Incorporated Areas

County Boundary

UGB



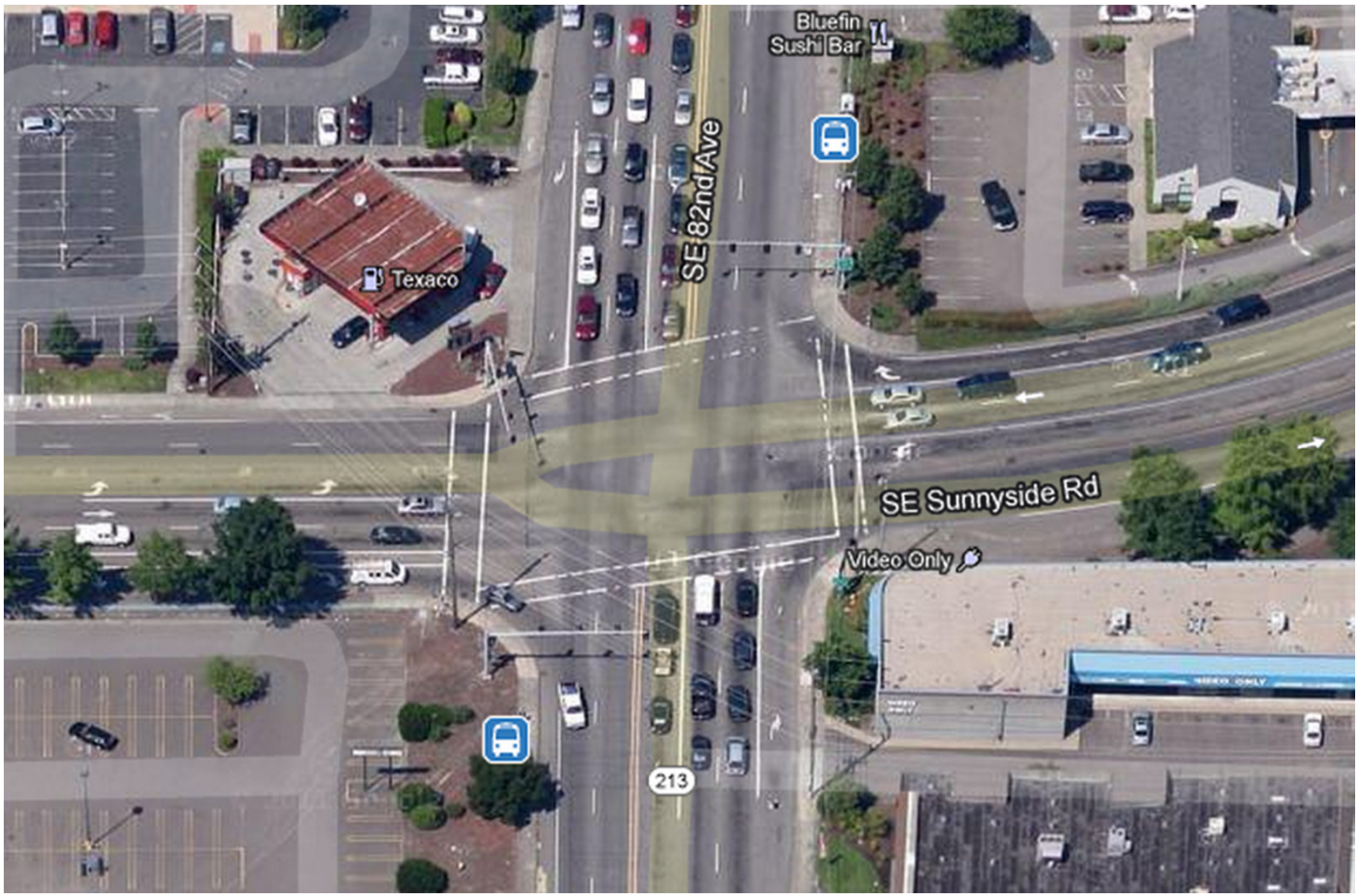
Master List Projects
Southwest Connector Area

Figure **P**

Coordinate System:
NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl
Data Source:
Clackamas County, Metro Data Resouce Center

History to Southwest Connector

- How did we get here?



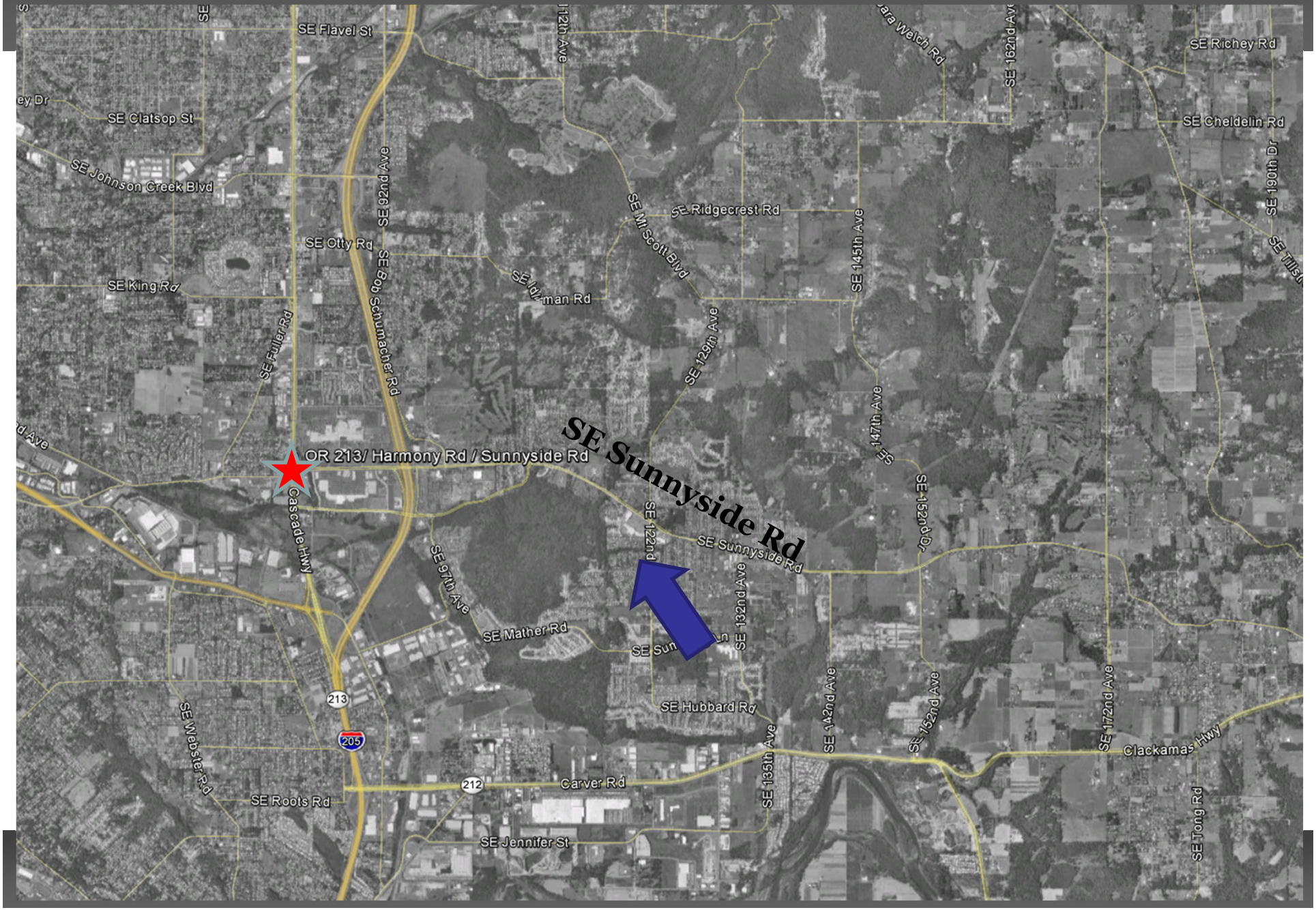
1955


1955
Linwood
Fuller Rd
SE 82nd
SE Sunnyside Rd
Harmony Rd
UP Railroad

1976

1989

1994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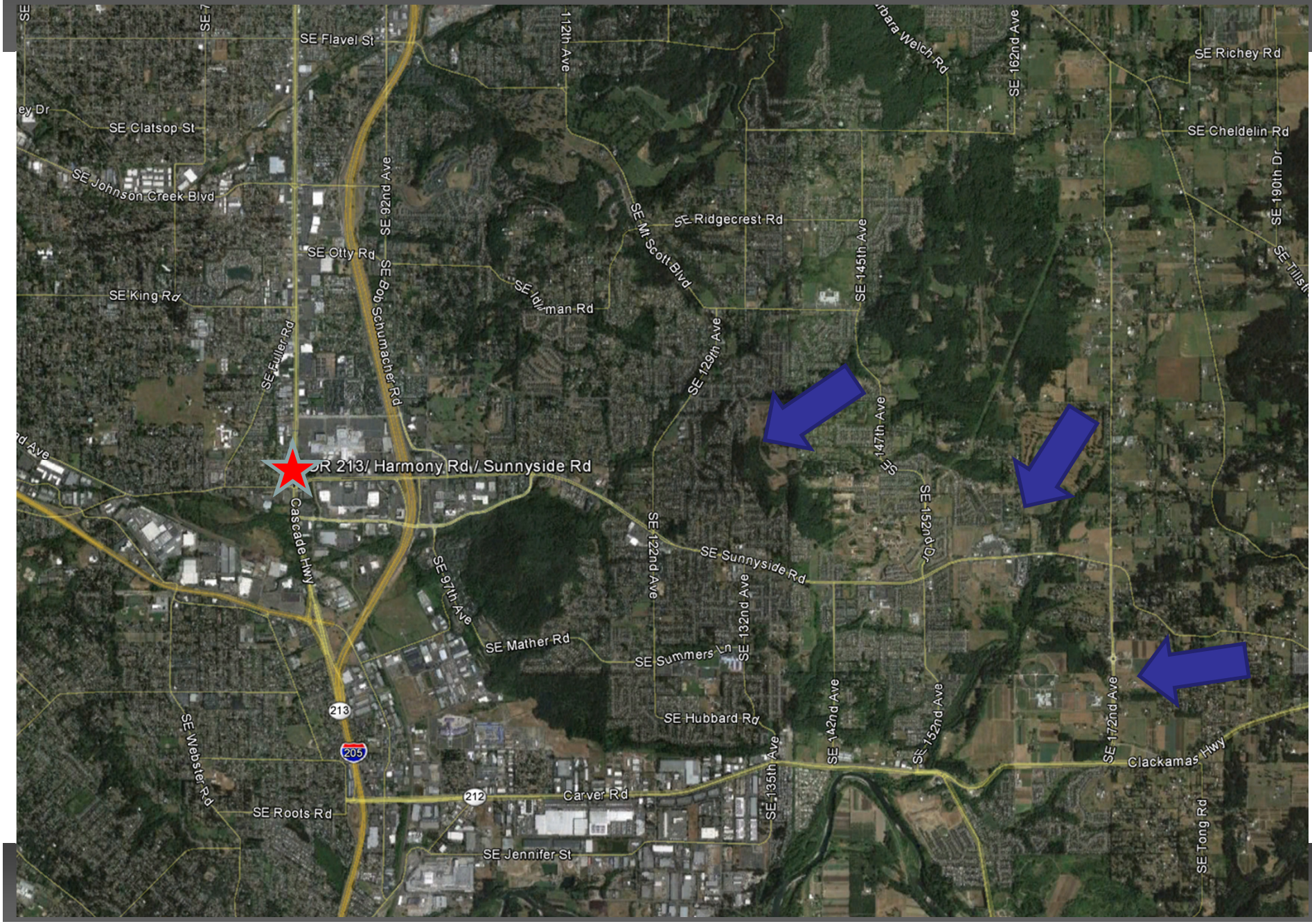
SE Clatsop St
SE Johnson Creek Blvd
SE King Rd
SE Otty Rd
SE Fuller Rd
SE 92nd Ave
SE Bob Schumacher Rd
SE Ridgecrest Rd
SE Mt Scott Blvd
SE 129th Ave
SE 145th Ave
SE 147th Ave
SE 162nd Ave
SE Richey Rd
SE Cheldelin Rd
SE 190th Dr
OR 213/ Harmony Rd / Sunnyside Rd
SE Sunnyside Rd
Cascade Hwy
SE 97th Ave
SE Mather Rd
SE 122nd
SE 132nd Ave
SE 152nd Dr
SE Hubbard Rd
SE 142nd Ave
SE 152nd Ave
SE 172nd Ave
Clackamas Hwy
SE 135th Ave
Carver Rd
SE Webster Rd
SE Roots Rd
SE Jennifer St
SE Tong Rd
213
205
212

2012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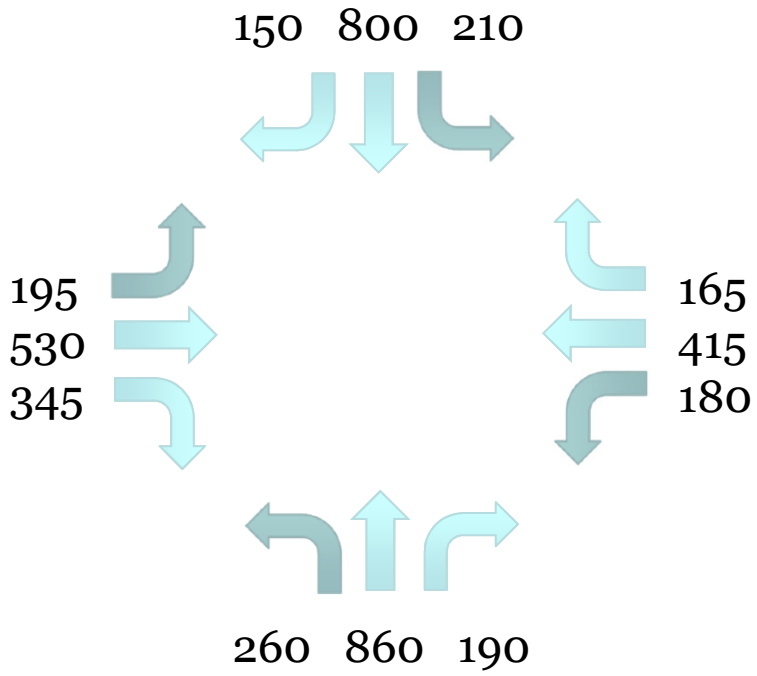
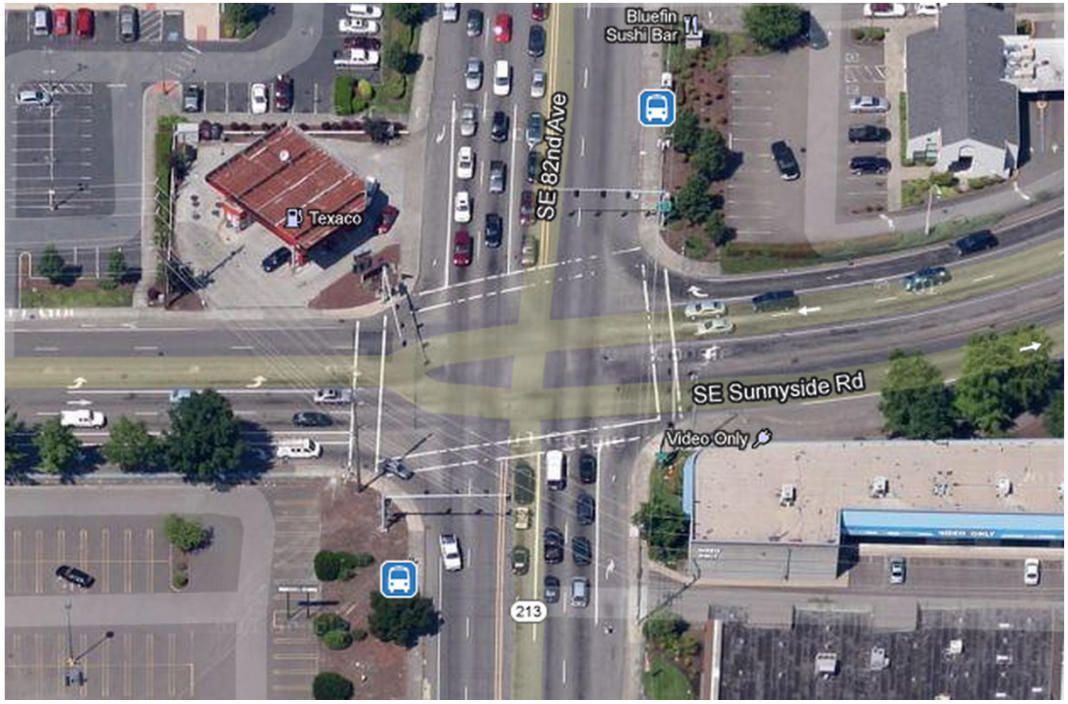
Clackamas Hwy
SE Webster Rd
SE Roots Rd
Carver Rd
SE Jennifer St
SE Tong Rd
213
205
212

History to Southwest Connector

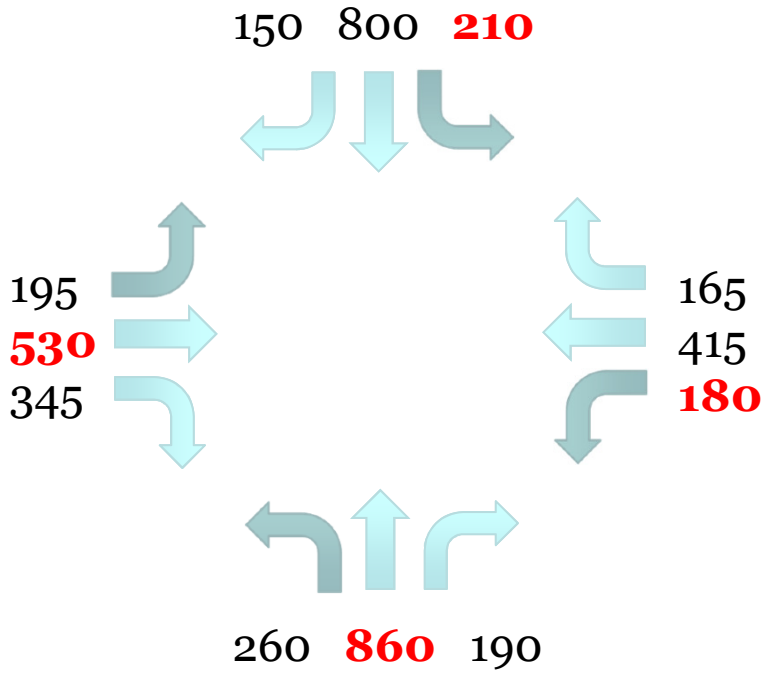
- Sunnyside Road/82nd Avenue (Existing PM Peak Hour Volumes)





History to Southwest Connector

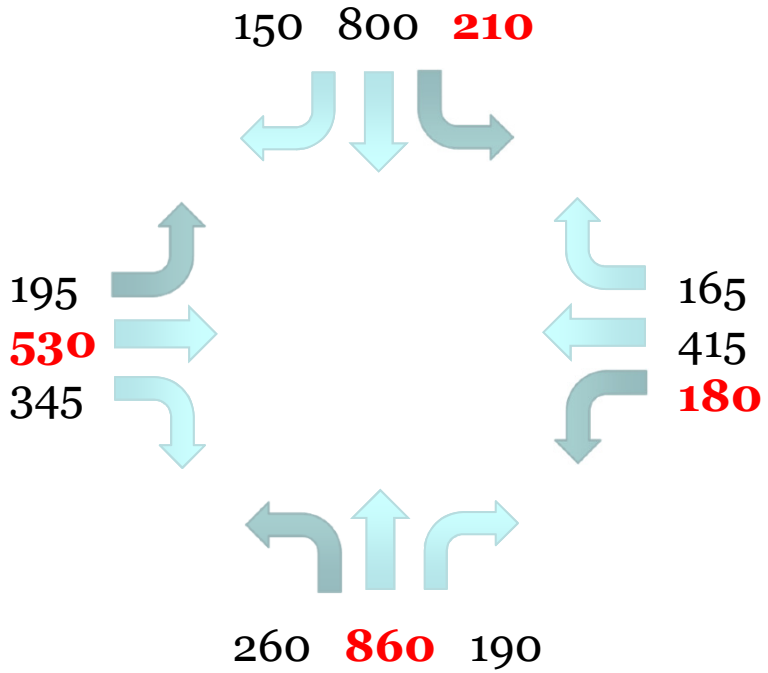
- Sunnyside Road/82nd Avenue (Existing PM Peak Hour Volumes)



- **CRITICAL MOVEMENTS**
  - **210 SBLTs**
    - **Commute trips home and to Regional Center**
  - **180 WBLTs**
    - **Leaving Regional Center and commute trips home**
  - **860 NBTHs**
    - **Leaving Industrial Area and I-205, commute trips home**
  - **530 EBTHs**
    - **Commute trips home and to Regional Center**

History to Southwest Connector

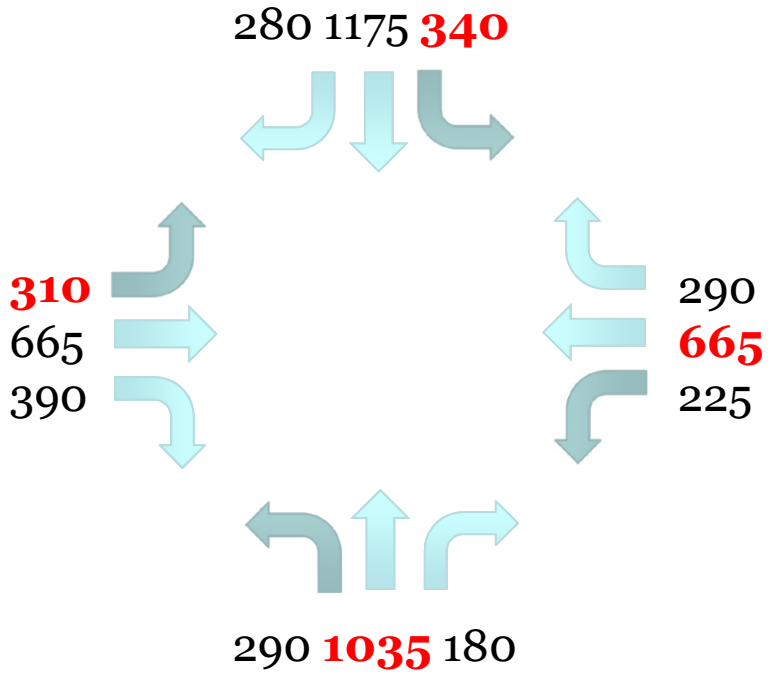
- Sunnyside Road/82nd Avenue



- **CRITICAL MOVEMENTS**
  - **Existing Conditions = 1,085**
  - **Significant Increases to any critical movement will degrade operations beyond current standards**

History to Southwest Connector

- Sunnyside Road/82nd Avenue (2035 With Connector)



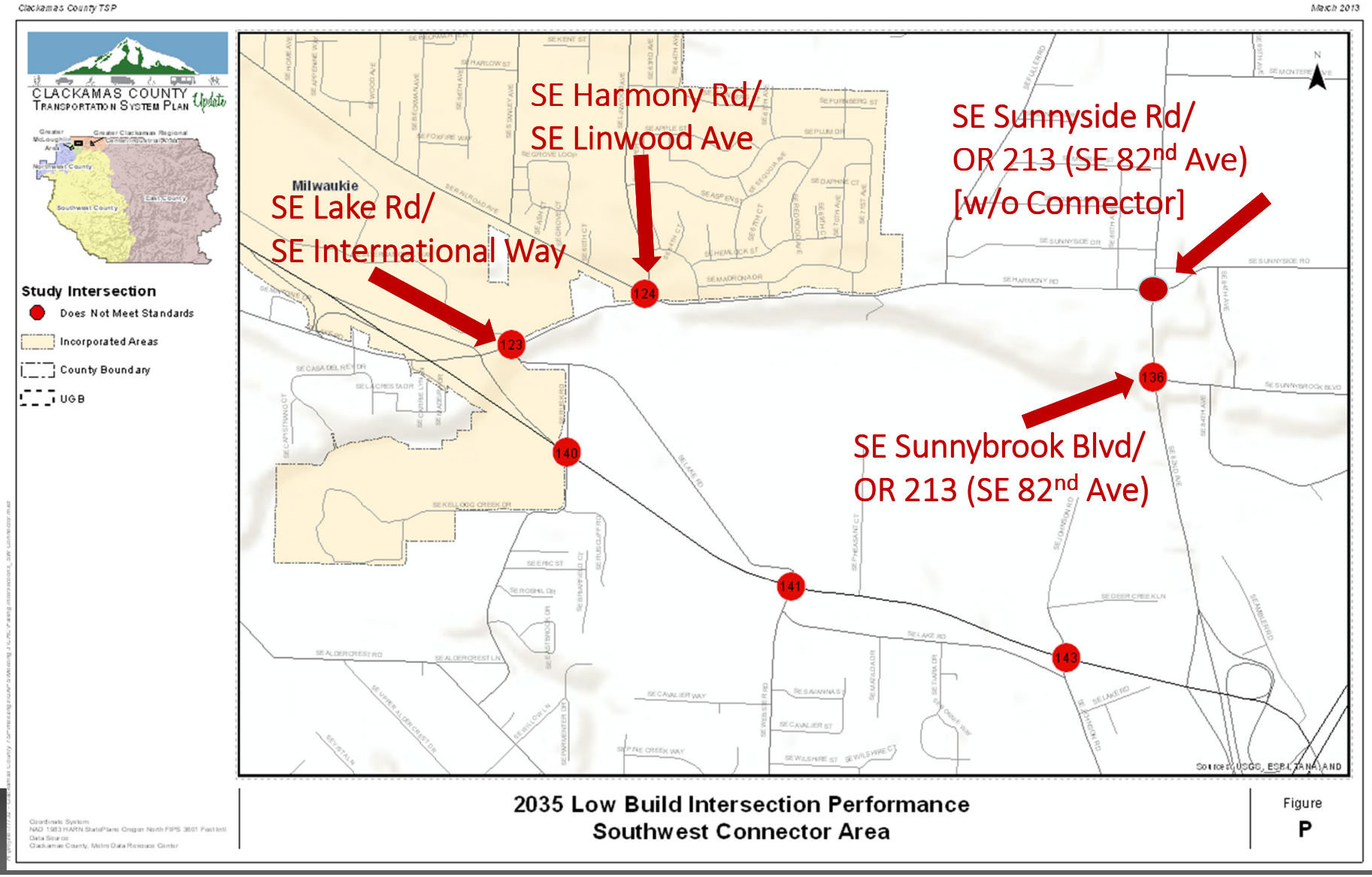
- **CRITICAL MOVEMENTS**
  - **Existing Conditions = 1,085**
  - **2035 w/ Connector = 1,330**
    - **Approaching max capacity**
  - **2035 No Build (No Connector) = 1,530**
    - **Over capacity**

What is the future for the SW Connector Area?

- Continued Growth in Clackamas Regional Center
  - Current vacancies will reduce with economic recovery
  - Population growth will trigger redevelopment and development projects
- External Clackamas County Growth Influences
  - Increased Demand within the Sunnyside and Sunrise Corridors
    - Job Growth in the Clackamas Industrial Area
    - New Homes in Happy Valley and Damascus

Area Needs – Intersection Operations

- Intersections that do not meet standards under 2035 Low Build



How can we respond?

- Option A - Construct improvements to maintain existing operations (to operational standards) as demand grows
- Option B - Allow additional congestion within the Clackamas Regional Center
- Option C - Provide a combination of Options A and B

Draft Projects - Southwest Connector Area

CLACKAMAS COUNTY
TRANSPORTATION SYSTEM PLAN *Update*

Master List County Projects

- Tier 1
- Tier 2
- Tier 3

Master List ODOT Projects

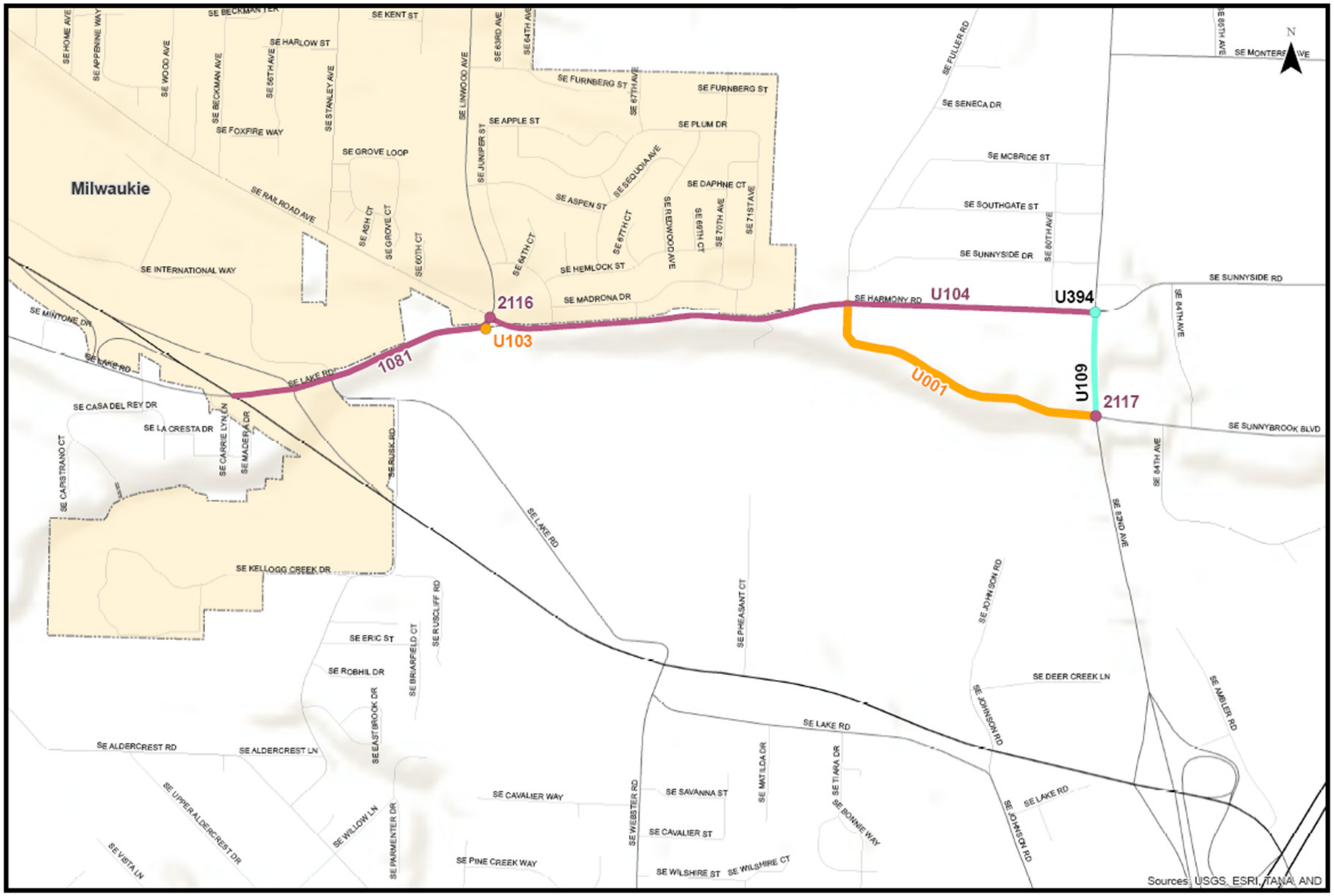
- Tier 1
- Tier 2
- Tier 3

Multi-Use Path

Incorporated Areas

County Boundary

UGB



Coordinate System:
NAD 1983 HARN StatePlane Oregon North FIPS 3601 Feet Intl
Data Source:
Clackamas County, Metro Data Resouce Center

Master List Projects
Southwest Connector Area

Figure
P

Goal Scoring

- Projects rated for each goal on scale of -1 to +2

Goal	Metric
Goal 1: Sustainability	1) Does the project increase the potential for walking, biking or taking transit? 2) Does the project impact identified environmentally sensitive areas?
Goal 2: Local Businesses and Jobs	1) Is the project located in or near an existing or future employment area? 2) Does the project create a direct connection from a highway or other major facility to an employment area?
Goal 3: Livable and Local	1) Does the project increase connections to daily needs and services? 2) Does the project reduce the impacts of reoccurring flooding? 3) Does the project help implement a local land use or development plan?
Goal 4: Safety and Health	1) Does the project improve a safety focus intersection, a candidate road safety audit corridor or an ODOT Safety Priority Index System (SPIS) site? 2) Does the project have the potential to reduce emissions near schools or densely populated areas?
Goal 5: Equity	1) Is the project located in a transportation disadvantaged area and does it increase transportation options for that disadvantaged community?
Goal 6: Fiscally Responsible	1) What is the estimated cost effectiveness of the project?

70% Growth Forecast Results

70% Household & Employment Growth Scenario

2035 Gamma Regional Household and Employment Forecast

2035 Gamma Forecast	2010 Households	2035 Households	2010 – 2035 Change (70%)	2010 Employment	2035 Employment	2010 – 2035 Change (70%)
Clackamas County	**146,324**	**205,369**	***+59,045***	**137,946**	**210,340**	***+72,394***
Multnomah County	304,649	442,778	*+138,129*	419,164	597,532	*+178,368*
Washington County	202,647	294,174	*+93,527*	232,019	382,310	*+150,291*
Clark County	158,110	228,392	*+70,282*	127,267	222,029	*+94,762*
TOTAL	811,730	1,170,713	*+358,983*	916,396	1,412,211	*+495,815*

Reference: *70% Growth Scenario…*, p. 1

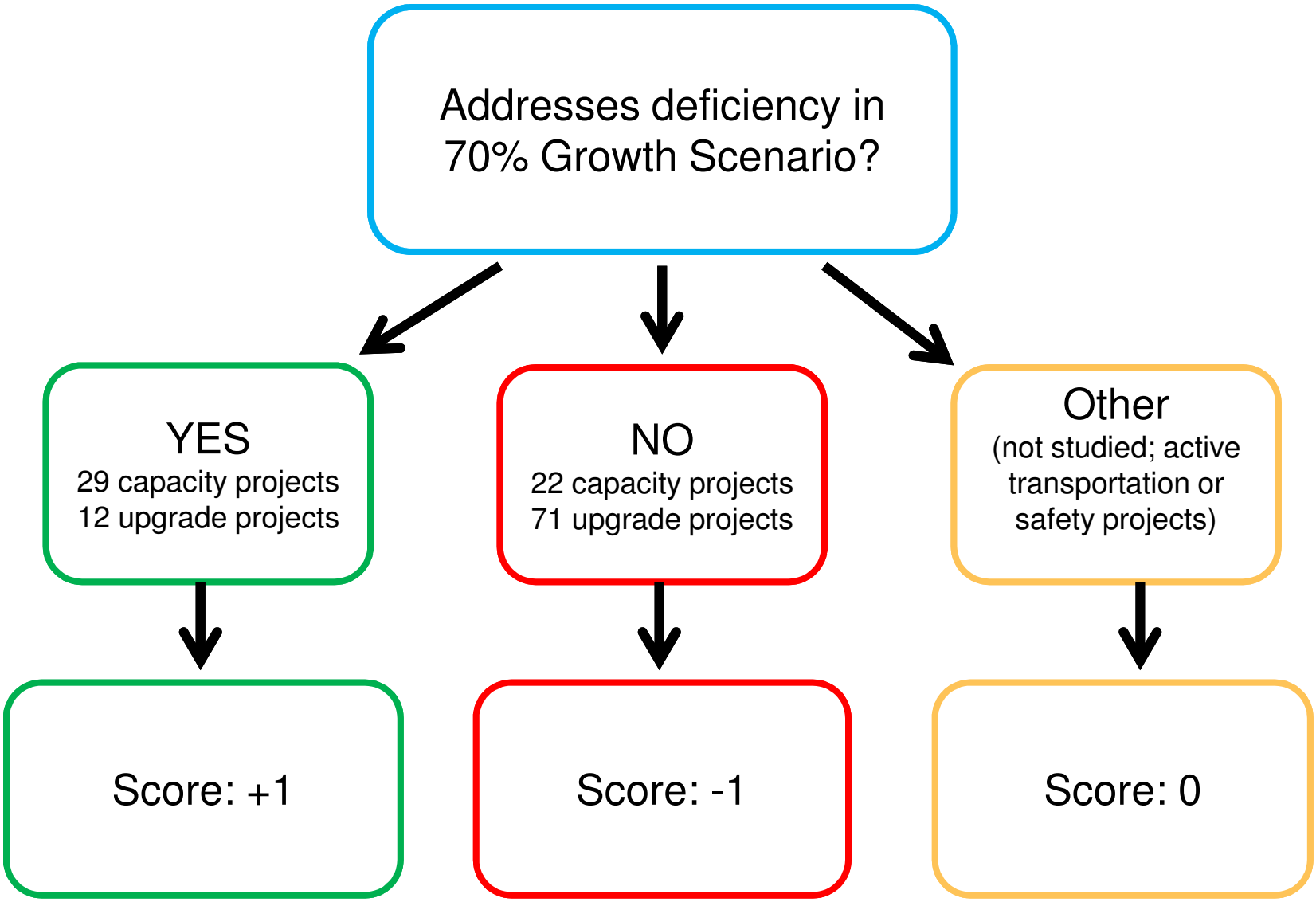
What is 70% of the Growth Forecast?

- Forecast household growth 2010 to 2035:
  - **59,045** new households
  - 70% of household growth: **41,331** new households

- Forecast job growth 2010 to 2035:
  - **72,394** new jobs
  - 70% of job growth: **50,675** new jobs

Reference: *70% Growth Scenario…*, p. 1

70% Growth Scoring Methodology



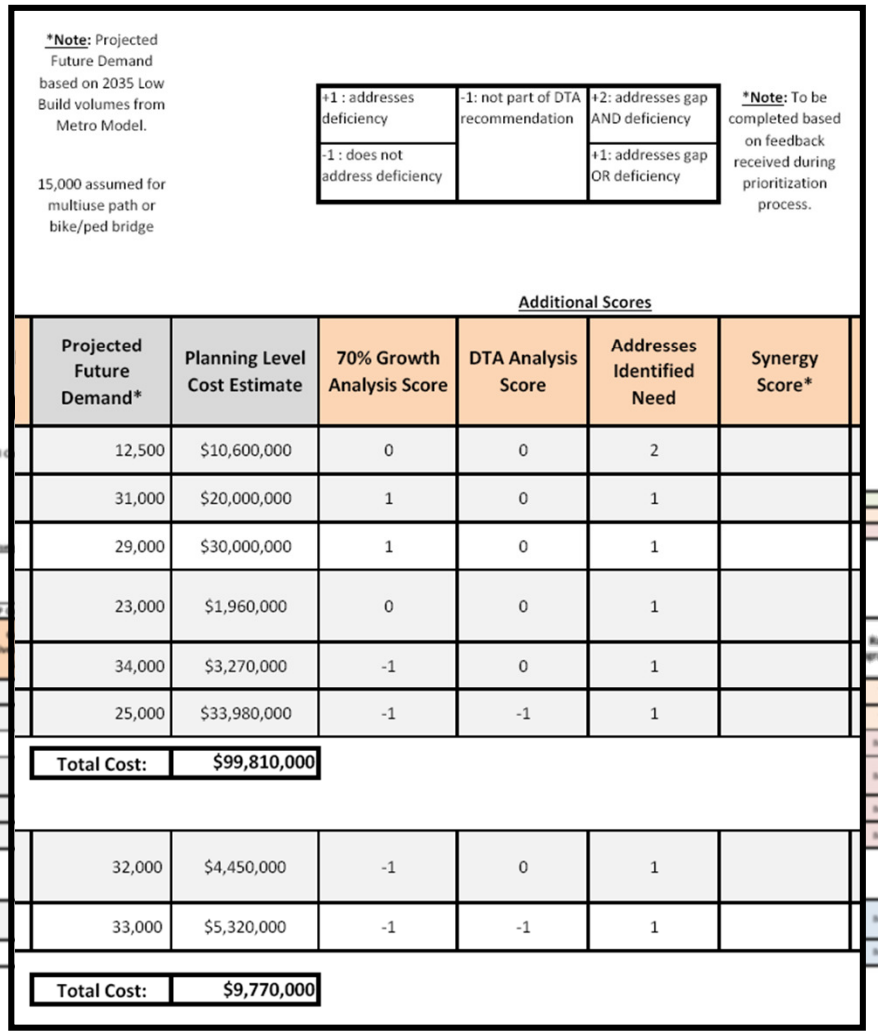
Reference: *70% Growth Scenario…*, p. 2

70% Results on 8 SW Connector Projects

- A combination of projects to address the 82nd/Sunnyside Road intersection are still necessary to meet operational standards in 2035 under 70 percent scenario

Draft Project List – SW Connector Area

- Projected Future Demand, Planning Level Cost Estimate and Additional Scores:



*Note: Projected Future Demand based on 2035 Low Build volumes from Metro Model.

15,000 assumed for multiuse path or bike/ped bridge

+1 : addresses deficiency	-1: not part of DTA recommendation	+2: addresses gap AND deficiency
-1 : does not address deficiency		+1: addresses gap OR deficiency

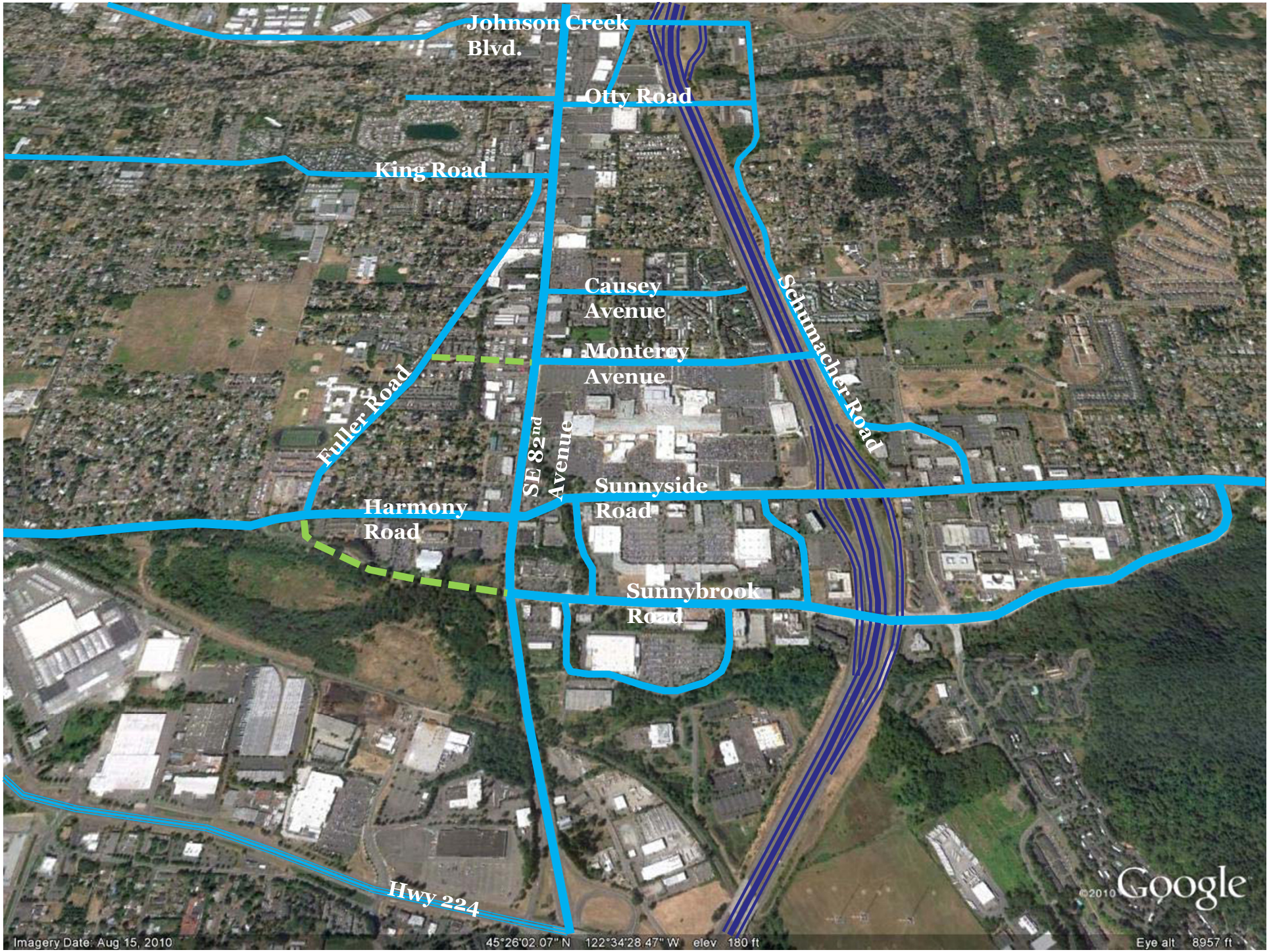
*Note: To be completed based on feedback received during prioritization process.

Additional Scores

Projected Future Demand*	Planning Level Cost Estimate	70% Growth Analysis Score	DTA Analysis Score	Addresses Identified Need	Synergy Score*
12,500	$10,600,000	0	0	2	
31,000	$20,000,000	1	0	1	
29,000	$30,000,000	1	0	1	
23,000	$1,960,000	0	0	1	
34,000	$3,270,000	-1	0	1	
25,000	$33,980,000	-1	-1	1	
Total Cost:	$99,810,000				
32,000	$4,450,000	-1	0	1	
33,000	$5,320,000	-1	-1	1	
Total Cost:	$9,770,000				

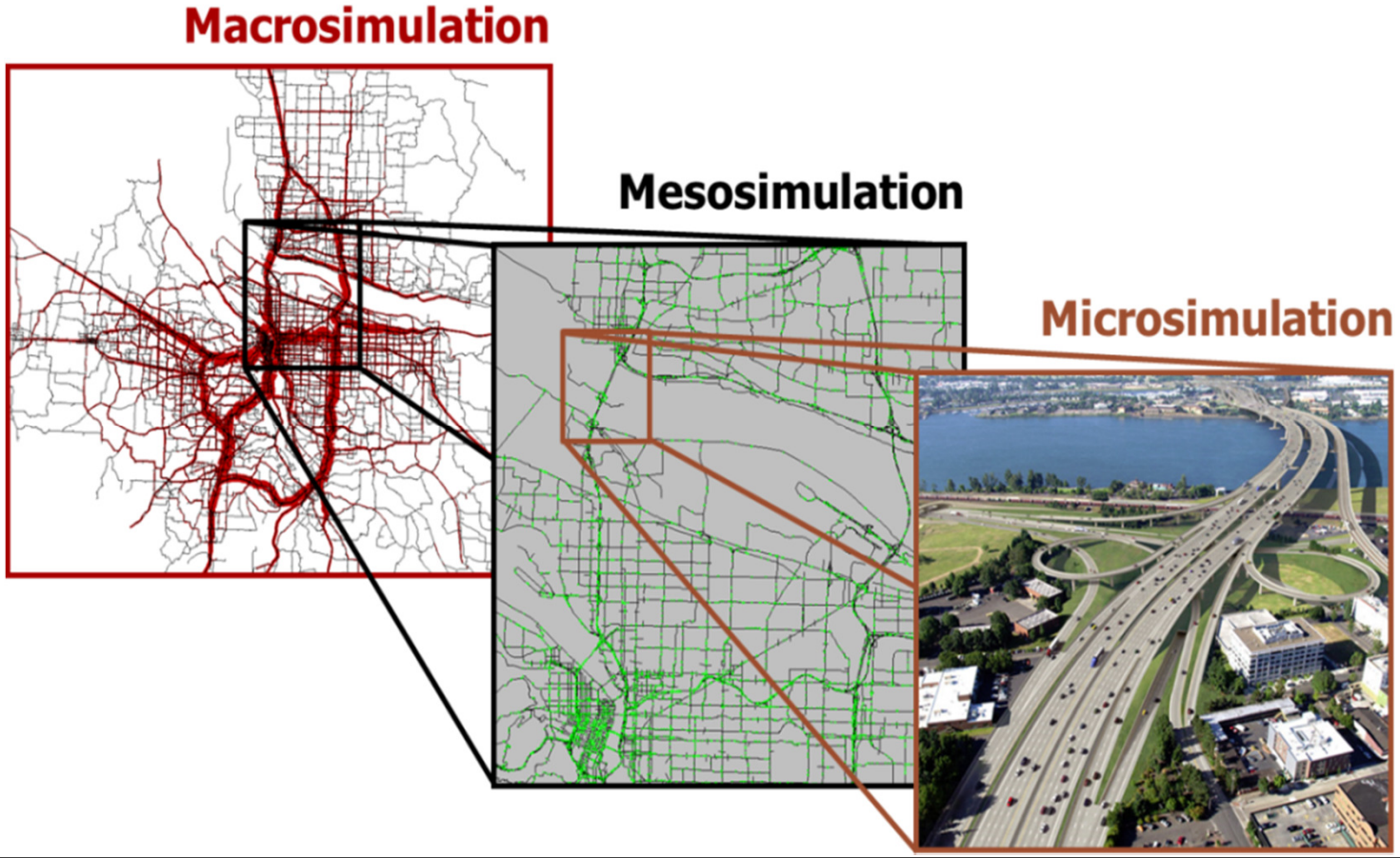
Dynamic Traffic Assignment (DTA) Analysis

Clackamas Regional Center Southwest Access Corridor


Johnson Creek Blvd.
Otty Road
King Road
Causey Avenue
Monterey Avenue
Schumacher Road
Fuller Road
SE 82nd Avenue
Sunnyside Road
Harmony Road
Sunnybrook Road
Hwy 224
©2010 Google
Imagery Date: Aug 15, 2010
45°26'02.07" N 122°34'28.47" W elev 180 ft
Eye alt 8957 ft

Dynamic Traffic Assignment (DTA) Analysis

- Analysis tool that models individual travel behavior at a system level = mesosimulation



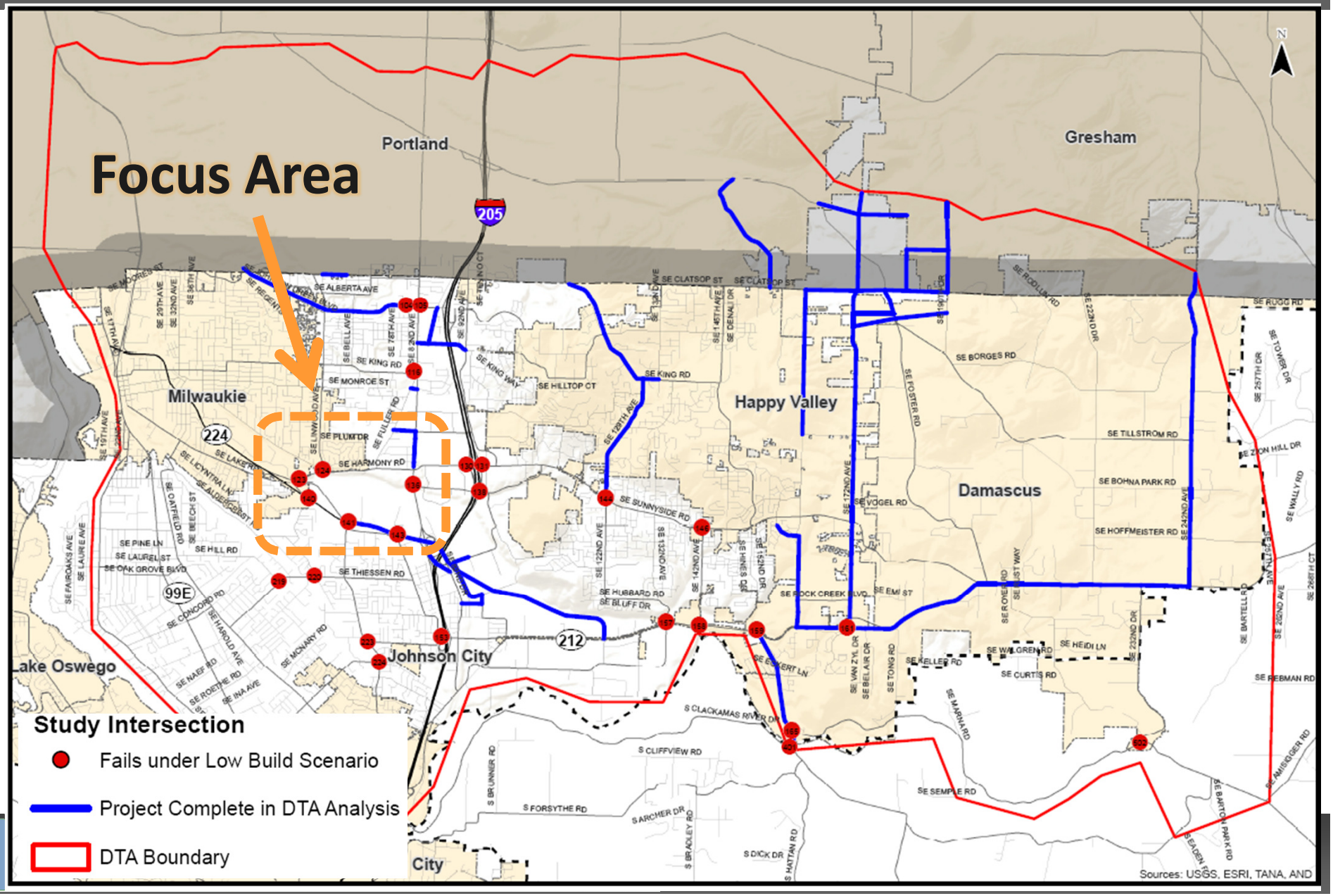
Reference: *DTA Initial Findings*, p. 3

Why use DTA?

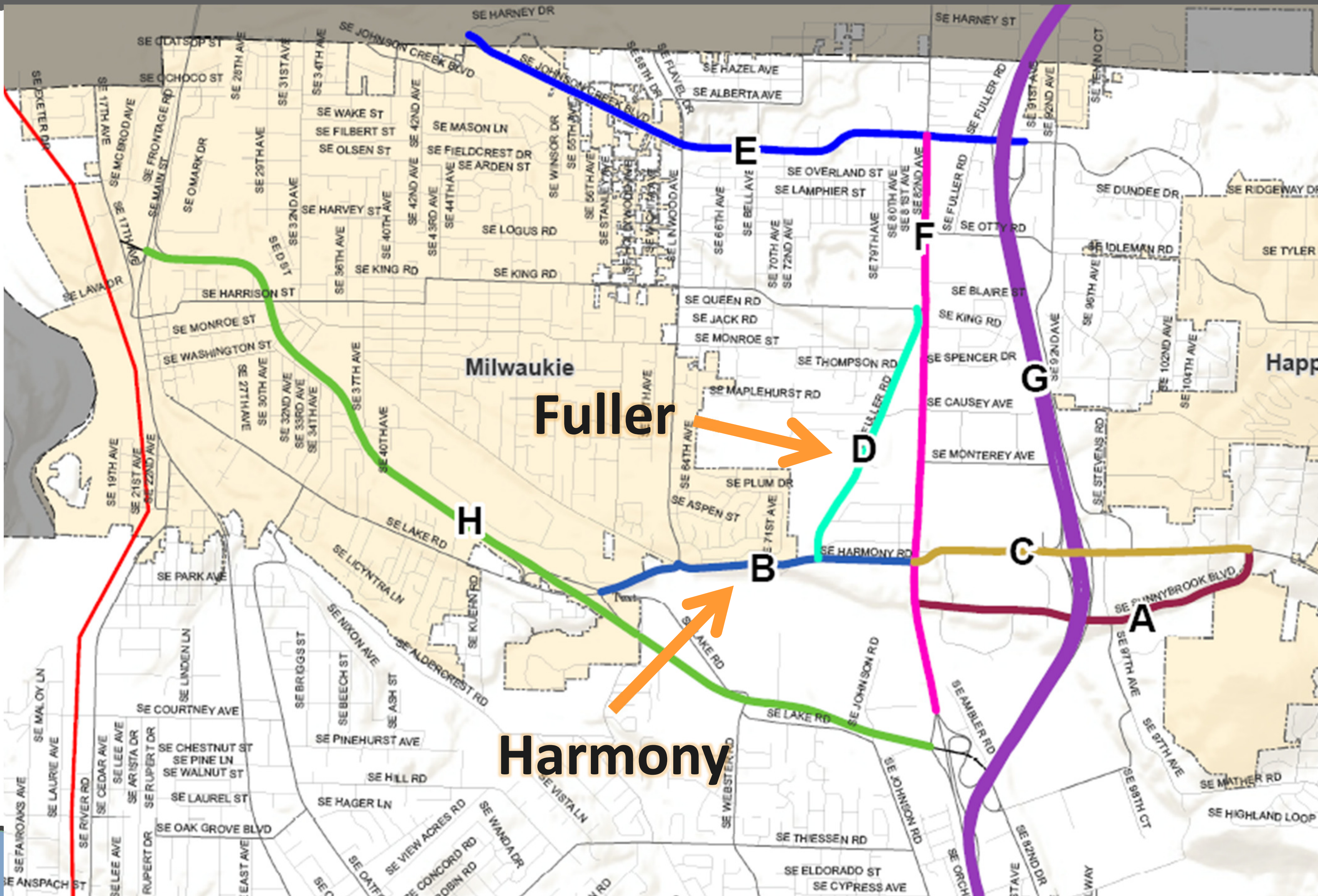
- Offers benefits over static tools, including:
  - Capacity constrained
  - Accounts for signal timing
  - Models variability in roadway conditions
  - Event modeling
  - Relatable Measures of Effectiveness (MOE)
- Provides more detailed, complete comparison of potential improvements for the Clackamas Regional Center Southwest Access Corridor

Reference: *DTA Initial Findings*, p. 3

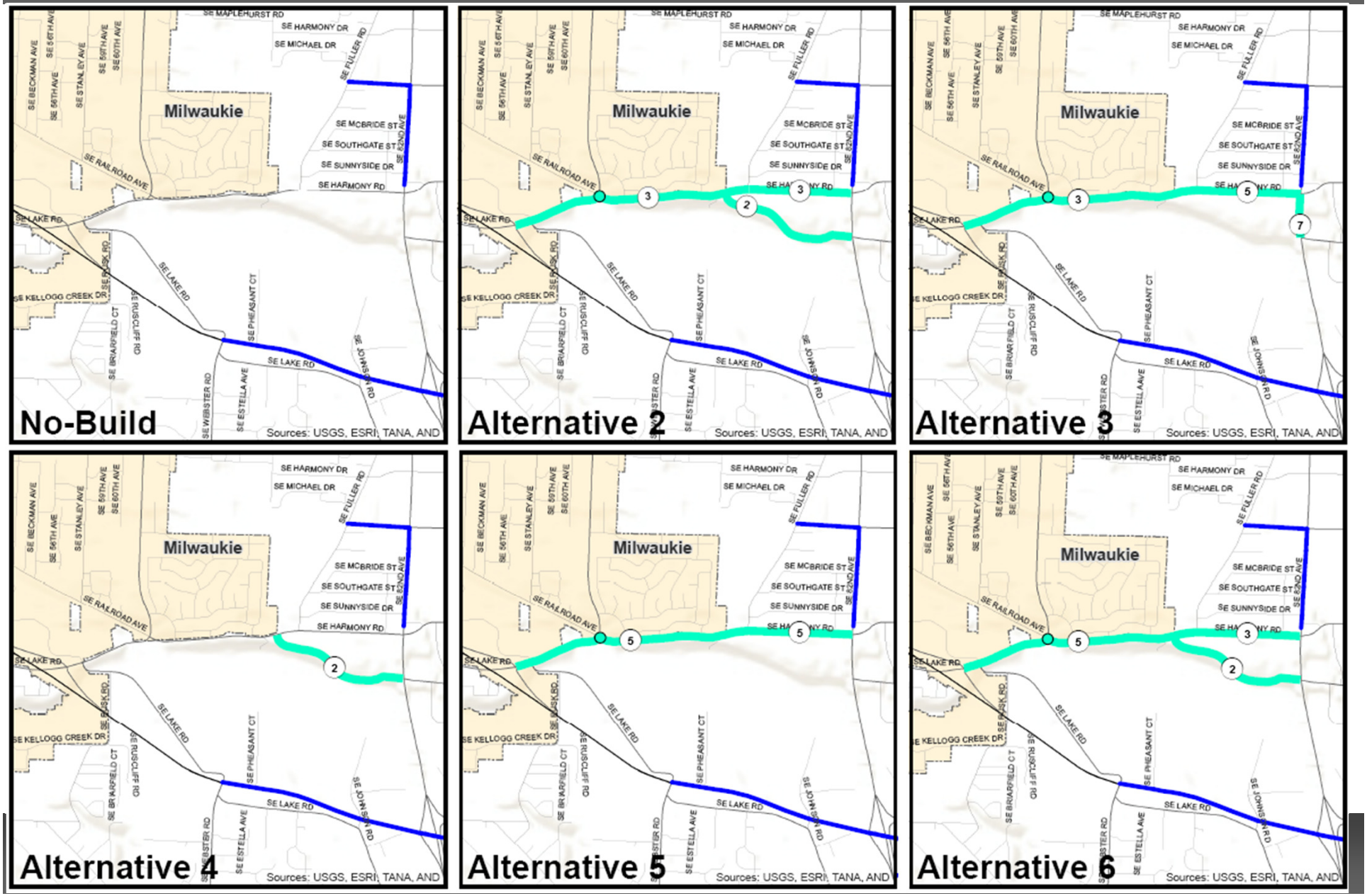
Study Area


Focus Area
Portland
Gresham
Milwaukie
Happy Valley
Damascus
Johnson City
Lake Oswego
205
224
99E
212
Study Intersection
Fails under Low Build Scenario
Project Complete in DTA Analysis
DTA Boundary
Sources: USGS, ESRI, TANA, AND

Study Corridors



Alternatives Evaluated



Alternatives Evaluated

Alternative	Sunnybrook Extension	82nd Widening	Harmony Widening (OR 224 to Fuller)	Harmony Widening (Fuller to 82nd)	Railroad Grade Separation
No Build					
2	X		3 lane	3 lane	X
3		7 lane	3 lane	5 lane	X
4	X				
5			5 lane	5 lane	X
6	X		5 lane	3 lane	X

Reference: *DTA Initial Findings*, p. 4-7

Understanding the Sunnybrook Extension

Understanding the Sunnybrook Extension

- U001 (Sunnybrook Ext from 82nd to Harmony)

Proposed Projects/Solutions

- U001 (Sunnybrook Ext from 82nd to Harmony)

DTA Analysis Questions

- How does each alternative perform based on the following performance measures?
  - Travel Time
  - Travel Time Reliability
  - Congestion
  - Outflow Volume
  - Queuing
- What improvement(s) is/are necessary to meet current standards?

Reference: *DTA Initial Findings*, p. 7-8

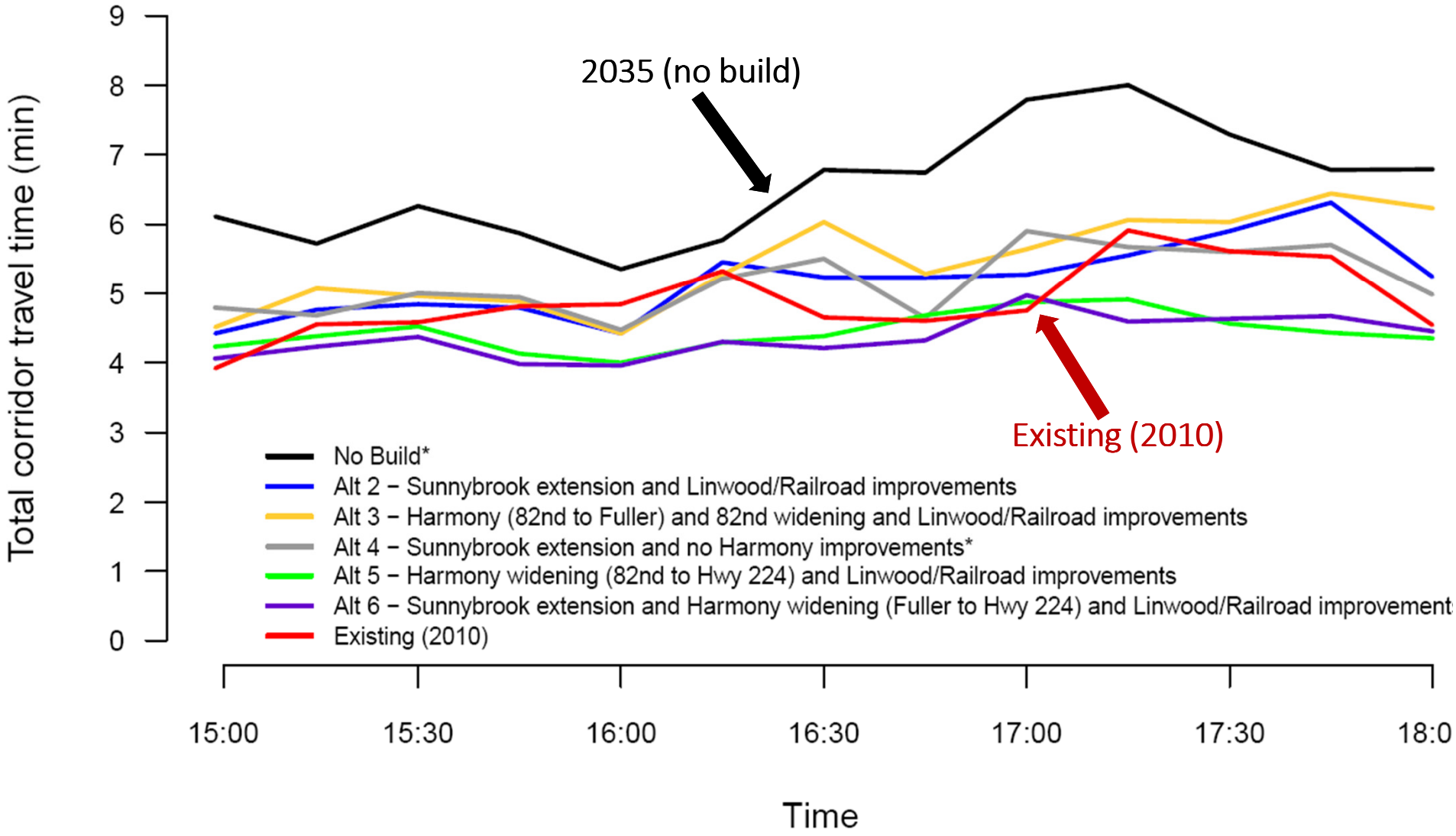
Overview of DTA Findings

- Traffic modeled on 8 corridors for year 2035
- Significant differences in performance observed on SE Harmony Road and SE Fuller Road corridors
- Alternative 5 and 6 produced best operations
- Alternatives 2, 3 and 4 produced operations in year 2035 similar to what vehicles experience today

Reference: *DTA Initial Findings*, p. 8-10

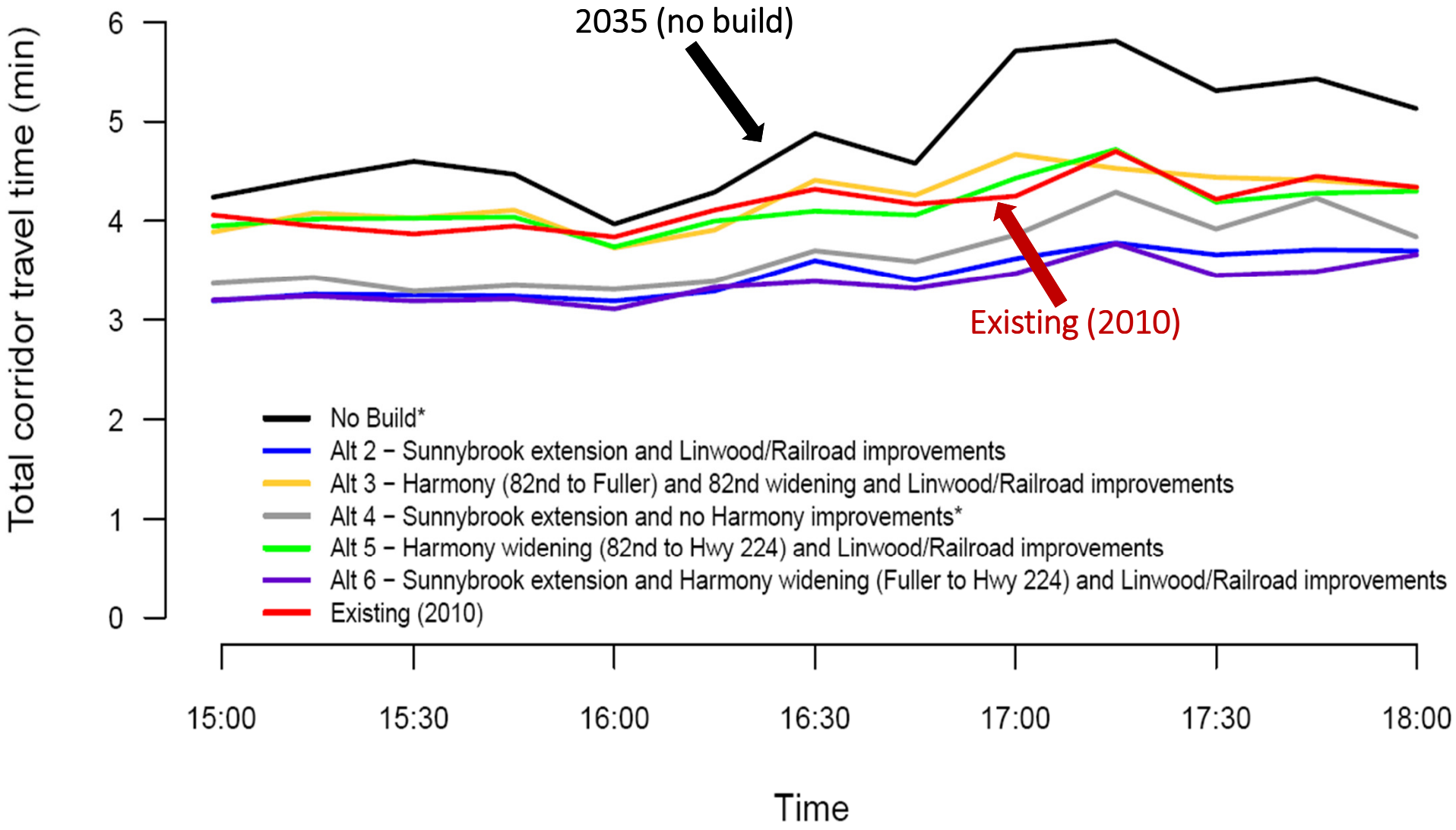
Harmony Road Findings – Travel Time

2035 Average 15-minute Peak Hour Travel Time on SE Harmony Road (Eastbound)



Fuller Road Findings – Travel Time

2035 Average 15-minute Peak Hour Travel Time on SE Fuller Road Corridor (Southbound)



Benefit-Cost Comparison

- Cost estimate for each alternative generated
- Travel time saved during PM peak hour monetized

Benefit/Cost Ratio for 20 Years

Alt.	Cost Estimate	Travel Time Saved during PM Peak Period	Savings per Day	Savings per Year	20 Year Savings	B/C Ratio (20 years)
2	$30,600,000	2.69 m	$2,910	$1,062,150	$21,243,000	0.49
3	$29,847,000	2.44 m	$2,400	$876,000	$17,520,000	0.42
4	$10,600,000	2.11 m	$2,010	$733,650	$14,673,000	0.99
5	$54,130,000	4.19 m	$4,760	$1,737,400	$34,748,000	0.46
6	$53,353,000	4.09 m	$4,910	$1,792,150	$35,843,000	0.48

Reference: *DTA Initial Findings*, p. 21

Conclusions

- **Alternatives 5 and 6** provide the ***most operational benefits***, producing travel time savings beyond what motorists experience today.
- **Alternatives 2, 3 and 4** produce travel times ***similar to what motorists experience today***.
- **At the current level of rail traffic**, grade-separating the intersection at Harmony Road/Linwood Avenue is not likely to significantly reduce travel times on corridor, ***but is necessary to allow for intersection improvements.***

Reference: *DTA Initial Findings*, p. 22

Initial Recommendation

Include Alternative 2 in the TSP project list (3-lane Sunnybrook and Harmony) because it meets the requirements of the existing County Zoning and Concurrency Ordinances, and allows for continued economic development in the area

Alternative	Sunnybrook Extension	82nd Widening	Harmony Widening (OR 224 to Fuller)	Harmony Widening (Fuller to 82nd)	Railroad Grade Separation
No Build					
2	X		3 lane	3 lane	X
3		7 lane	3 lane	5 lane	X
4	X				
5			5 lane	5 lane	X
6	X		5 lane	3 lane	X

Questions for Today's Discussion

Based on the Southwest Connector Options available to the County:

- Option A - Construct improvements to maintain existing operations (to operational standards) as demand grows
- Option B - Allow additional congestion within the Clackamas Regional Center
- Option C - Provide a combination of Options A and B

1. What is the groups preferred option?
2. If the County selects Option A, what set of the 8 related improvements do you prefer?
3. If the County selects Option B, what level of congestion should the community tolerate?

Reference: *DTA Initial Findings*, p. 23-24

Public Comments

Discussion/Recommendations

Next Steps

- CRC/IA GAPS Meeting #2 – March 18 (3-5 p.m.)
- TAC Meeting #7 – *March 28*
  - Review and comment on recommend prioritized project list
- PMT Review of Prioritized List and Funding Sources
  - Review and comment on recommend prioritized project list and identify probable funding sources.
- PAC Meeting #5B – *April 23*
  - Review recommended prioritized project list and division in to:
    - ***20 Year Capital Projects List (top 15% of projects)***
    - ***Preferred Capital Projects List (second 15% of projects)***
    - ***Long-Term Capital Project Needs (bottom 70% of projects)***
- PAC Meeting #5C – *May ??*
  - If needed for additional discussion