

Background

Introduction

- **Bi-state planning project**
- **Sponsored by ODOT, WSDOT and FHWA**
- **Led by a 28-member bi-state Task Force**
- **Purpose of Project:**
 - **Develop a strategic plan for I-5 corridor between Portland and Vancouver**



Background

- Key Findings From Previous Corridor Work:
 - The most economically important corridor in the state
 - Doing nothing threatens the economic promise and livability of the region
 - There is no silver bullet - answer is multi-modal
 - Funding will have to include innovative finance

Project Overview/Purpose

- Multi-faceted plan – looking not only at freeway, but also...
 - transit service in the corridor
 - managing demand
 - freight and passenger rail and
 - land use implications of making and not making improvements

Study Area Limits



Status of Project

- In January a 28-member bi-state task force began its work.
- Members of the committee include elected, business, neighborhood and community representatives.
- The Task Force spent January - June working with the public and one another to determine what improvements should be studied.
- Now reviewing evaluation results.

Option Packages Evaluated

- Existing Conditions (2000)
- No Build (2020)
- Baseline (2020)
- West Arterial
- Express Bus/3 Lanes
- LRT/3 Lanes
- Express Bus/4 Lanes
- LRT/4 Lanes

Quiz: Match Each Item's Estimated Increase Over the Next 20 Years

- | | |
|---------------------------|--------|
| 1. Four-county population | A. 30% |
| 2. Employment | B. 40% |
| 3. Regional truck trips | C. 50% |

Next Steps

December 2001:

- Task Force adopts draft recommendations for public review

January 2002:

- Public review of draft recommendations
- Task Force adopts draft recommendations

Next Steps - Continued

February - May 2002:

- Plan refinements including additional technical review & developing finance plan

June 2002:

- Adopt final recommendations and strategic plan

Post 2002:

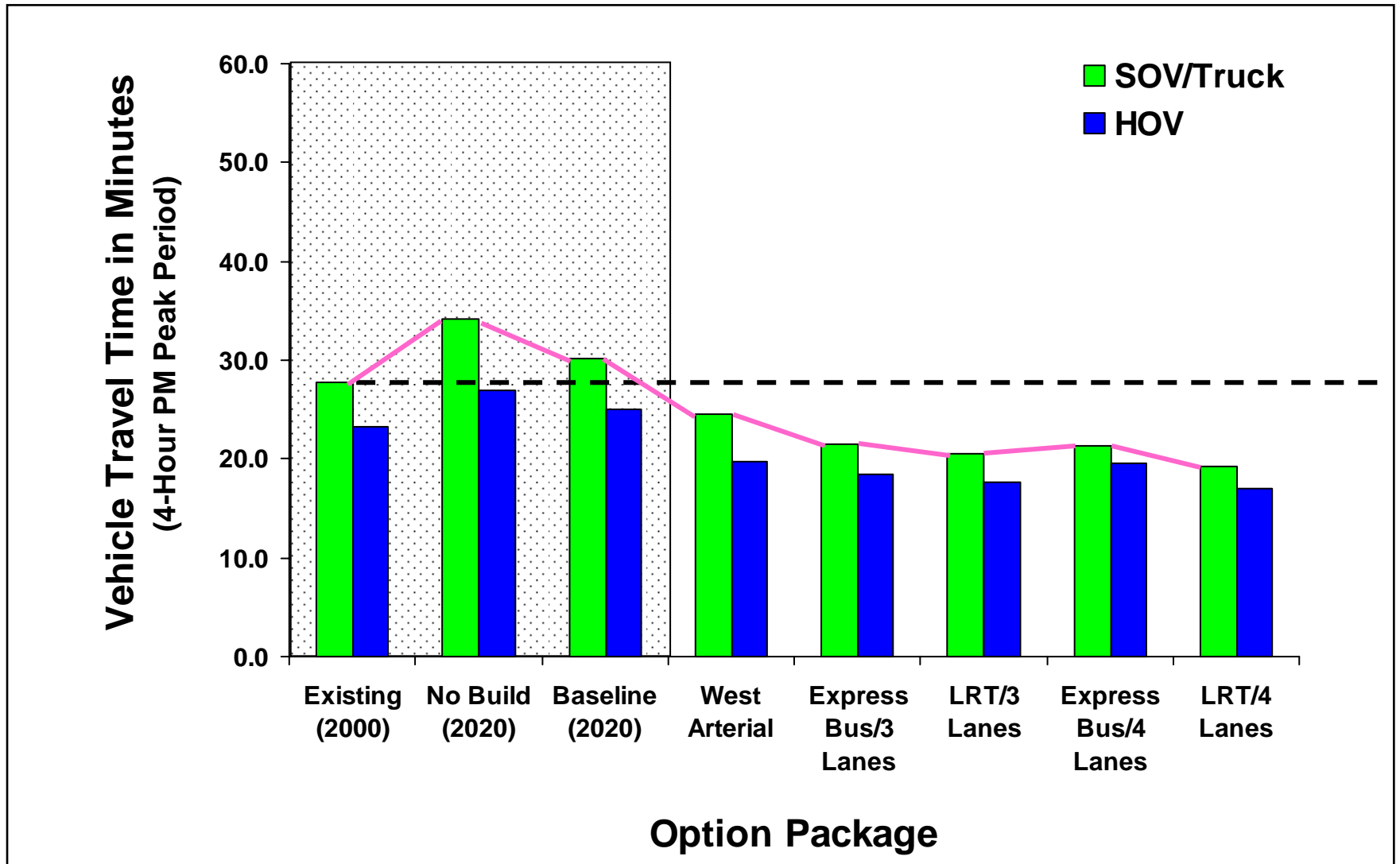
- EIS if major improvements are recommended

Transportation Findings

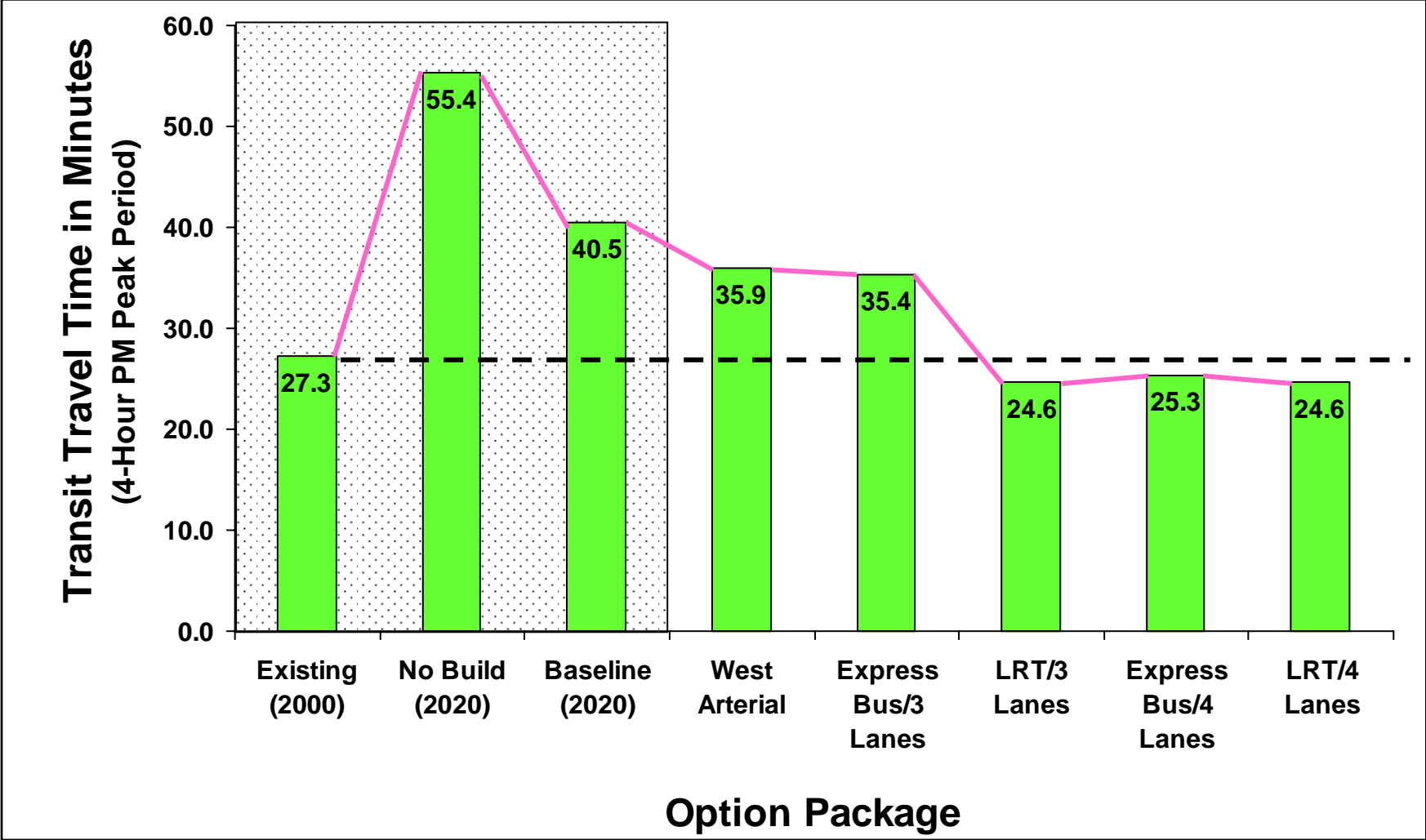
Peak Periods for Automobiles and Trucks

- The highest number of automobiles in the I-5 corridor is in the evening peak period (3-7 p.m.)
- The highest number of trucks is in the morning 7-10 a.m. and mid-day (11:30 a.m. - 2:30 p.m.).
- In general, the morning and mid-day periods follow the same trends as the evening peak period.

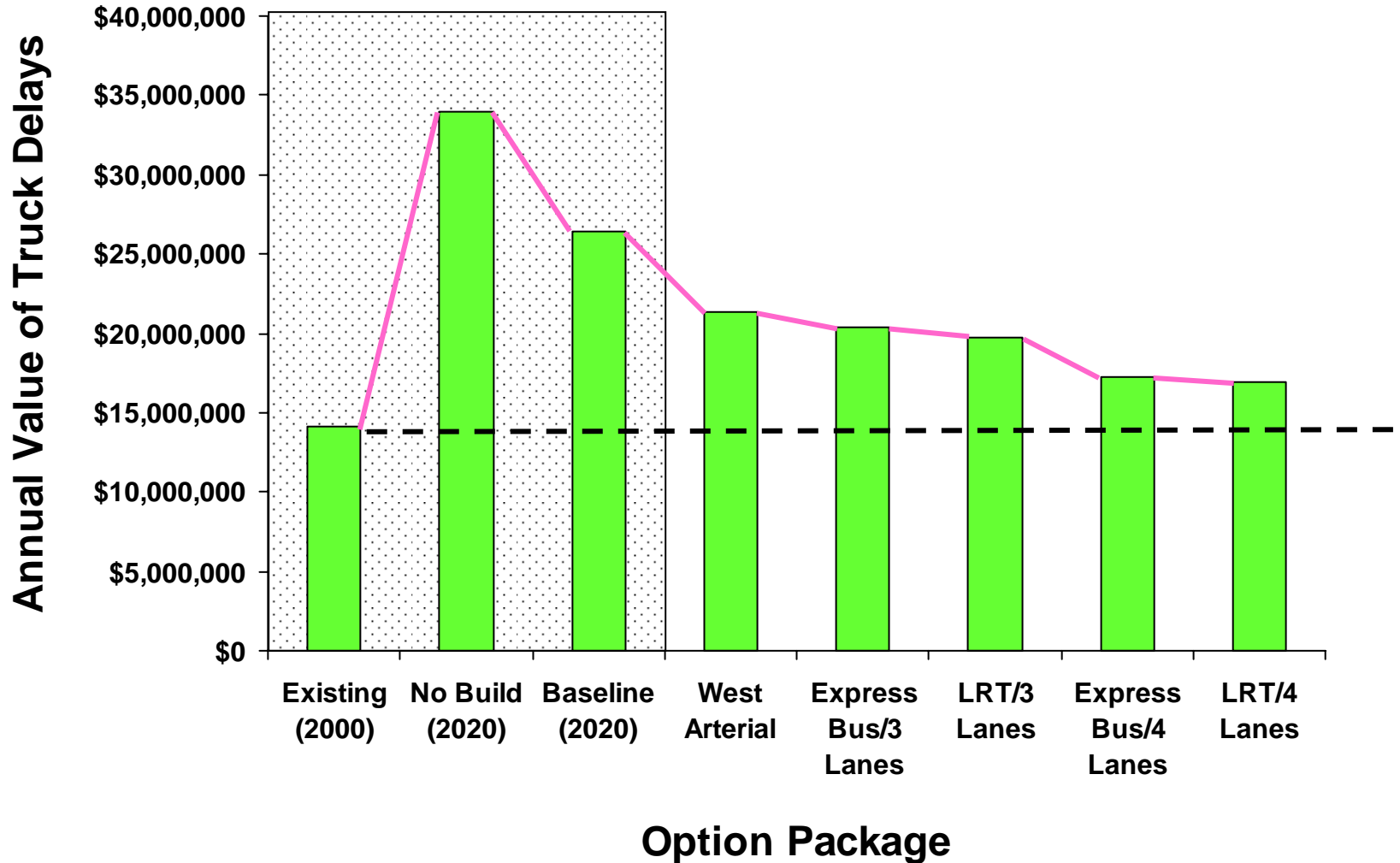
Vehicle Travel Times: Downtown Portland to Downtown Vancouver (PM Peak)



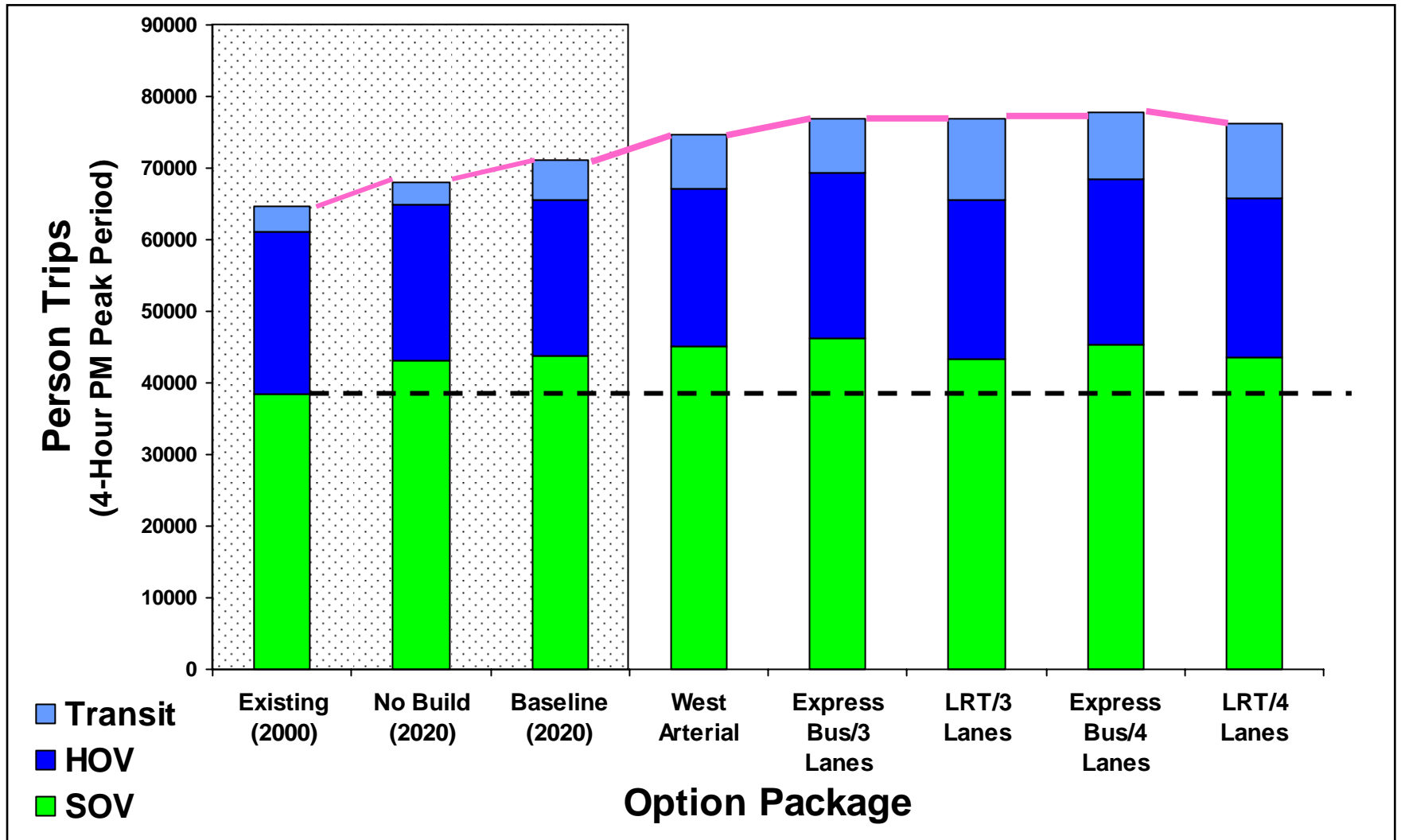
Transit Travel Time: Downtown Portland to Downtown Vancouver (PM Peak)



Value of Truck Hours of Delay in the Study Area

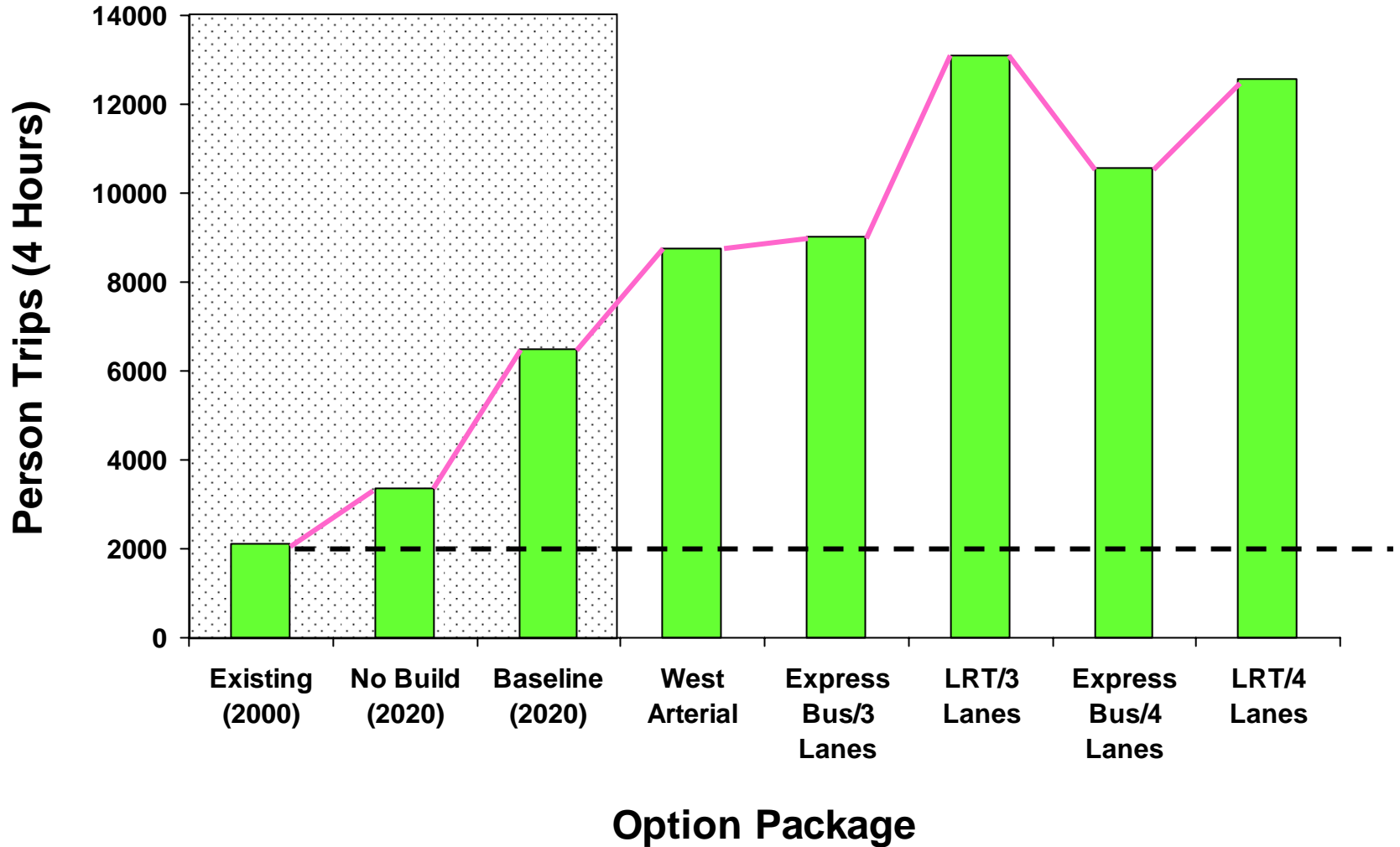


Person-Trips Across the Columbia River by Mode* (PM Peak/Peak Direction)

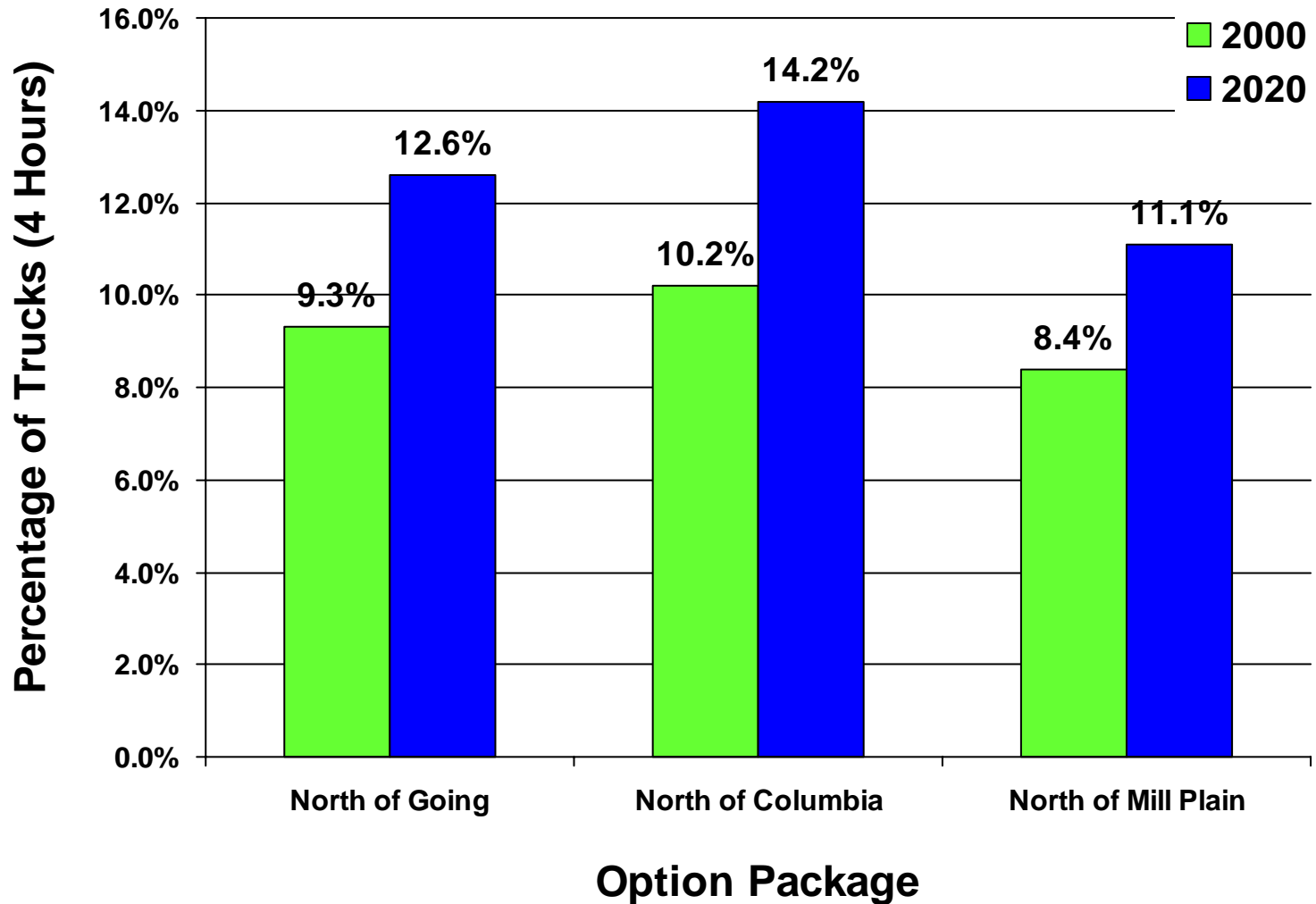


* Includes I-5, supplemental bridge (if applicable), and I-205

Transit Trips Across the Columbia River (PM Peak)

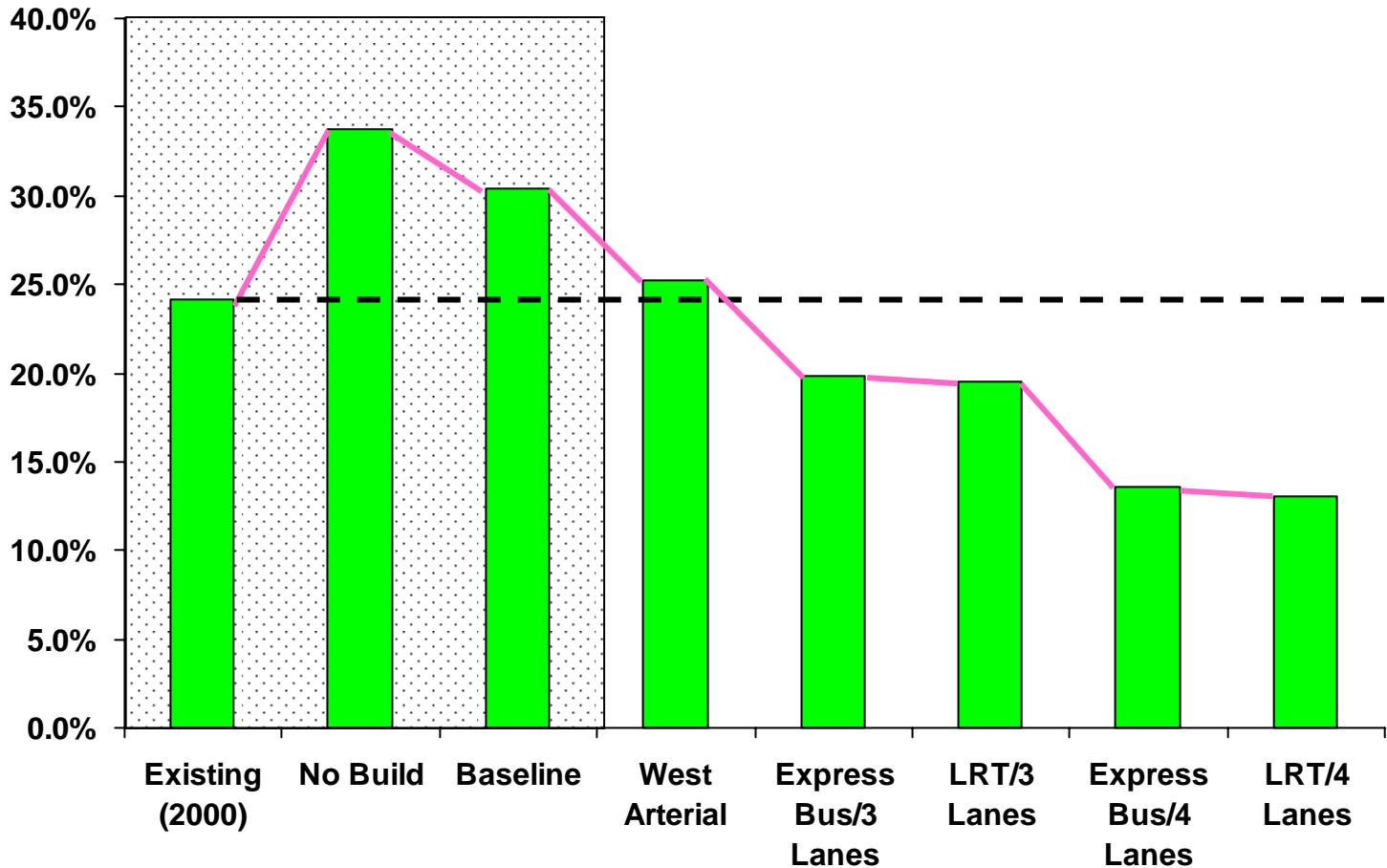


Truck Volume Growth Along I-5 Corridor



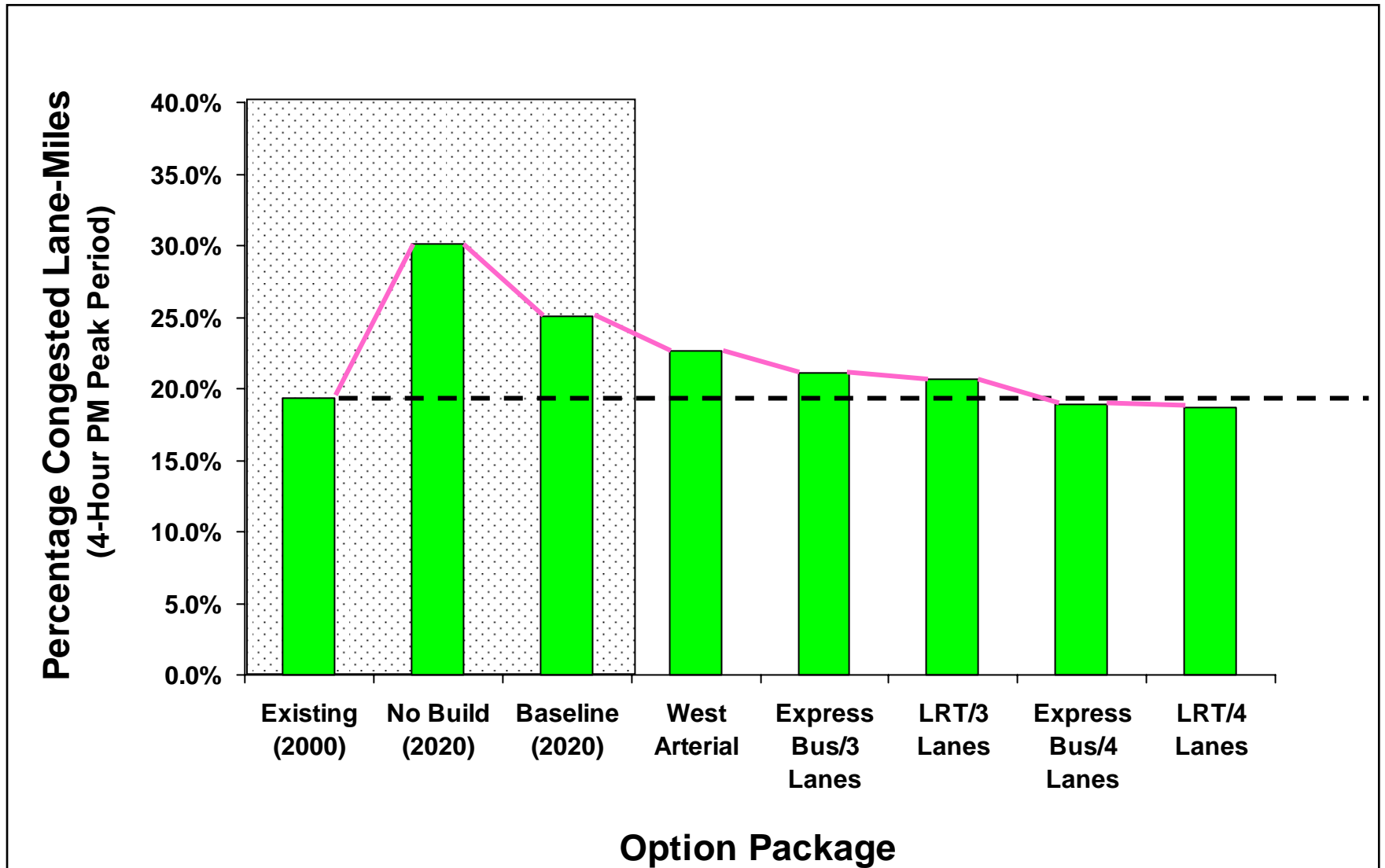
Congested Lane-Miles on I-5 and I-205 (PM Peak)

Percentage Congested Lane-Miles
(4-Hour PM Peak Period)

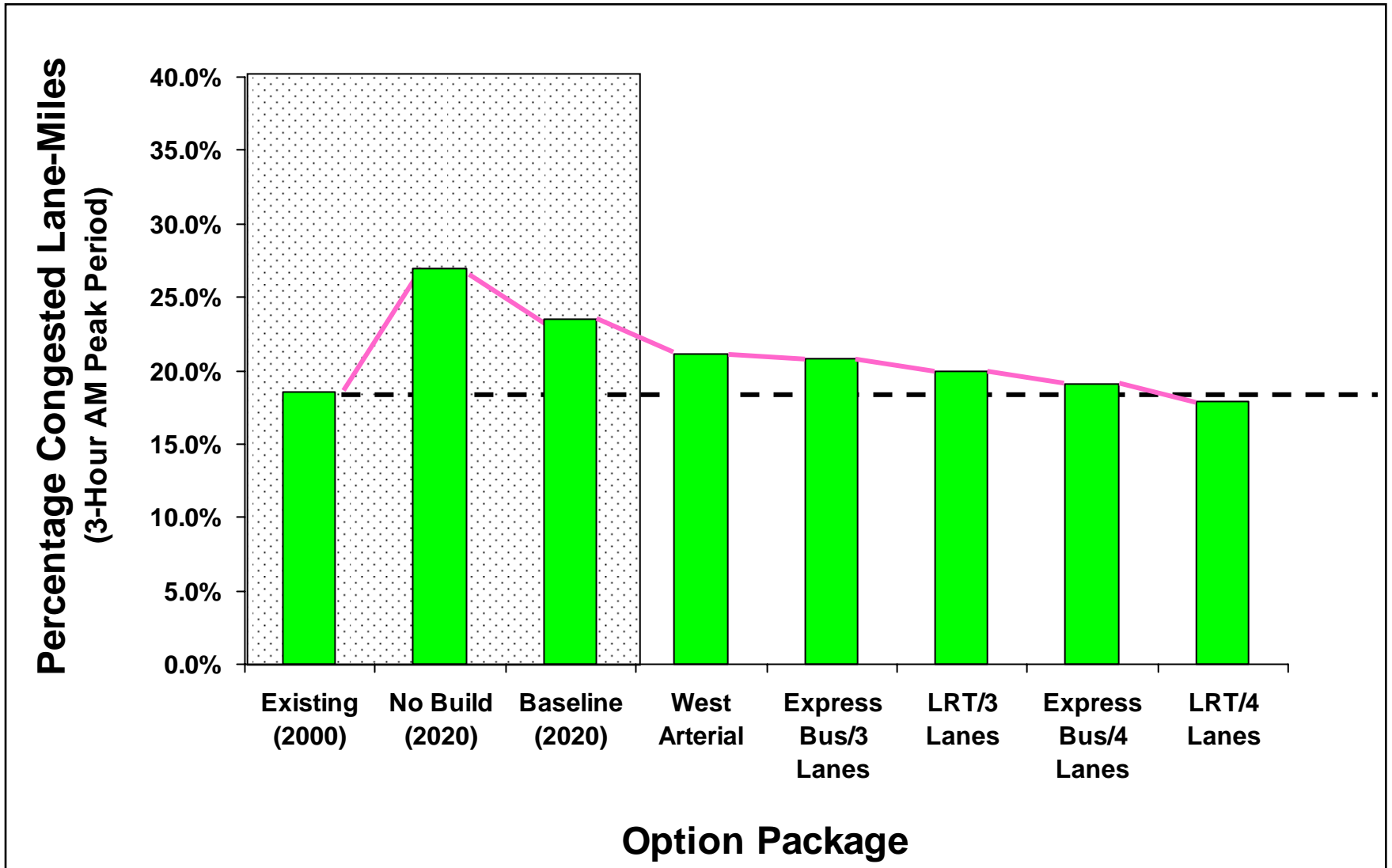


Option Package

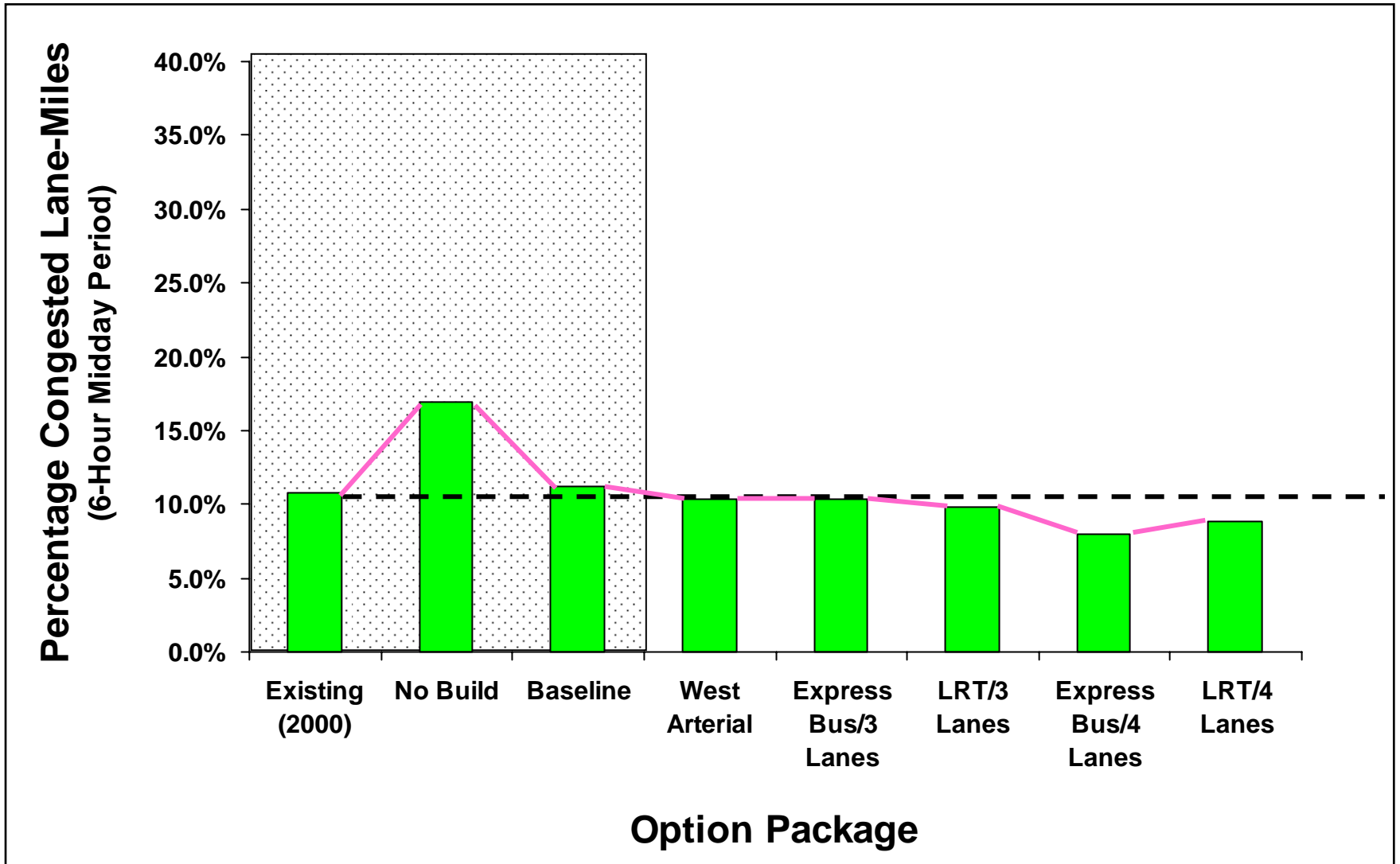
Congested Lane-Miles on Truck Routes (PM Peak)



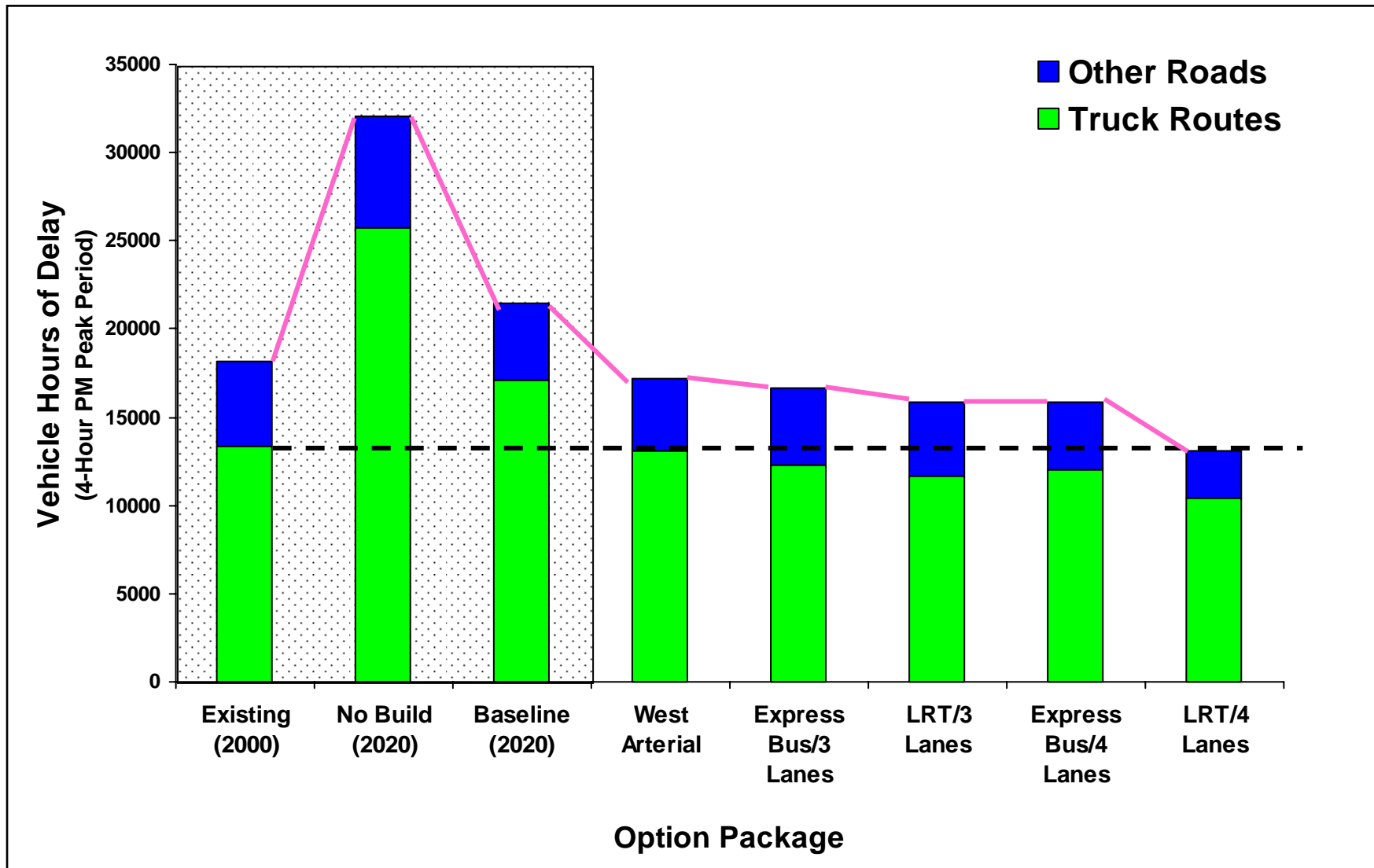
Congested Lane-Miles on Truck Routes (AM Peak)



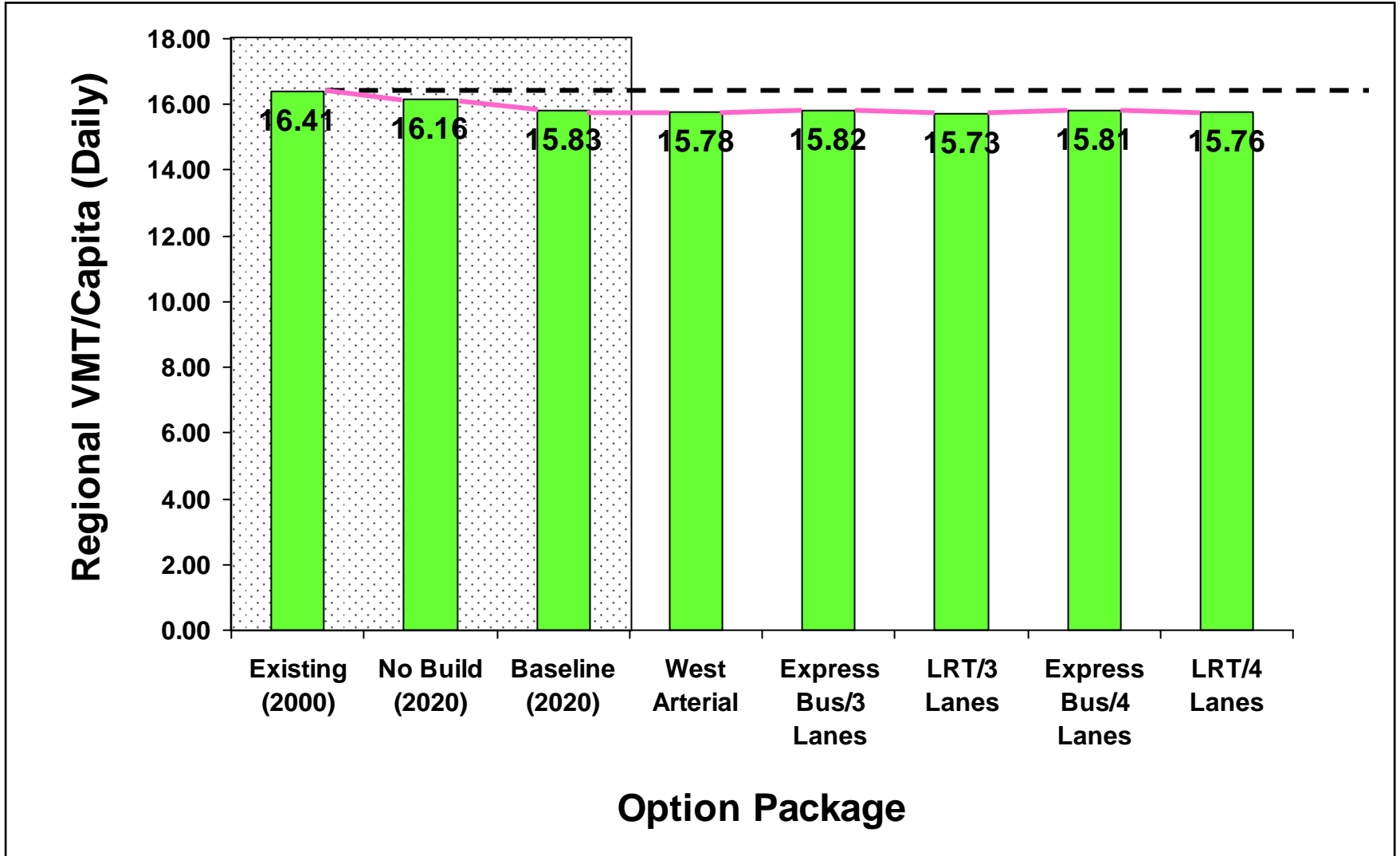
Congested Lane-Miles on Truck Routes (Midday)



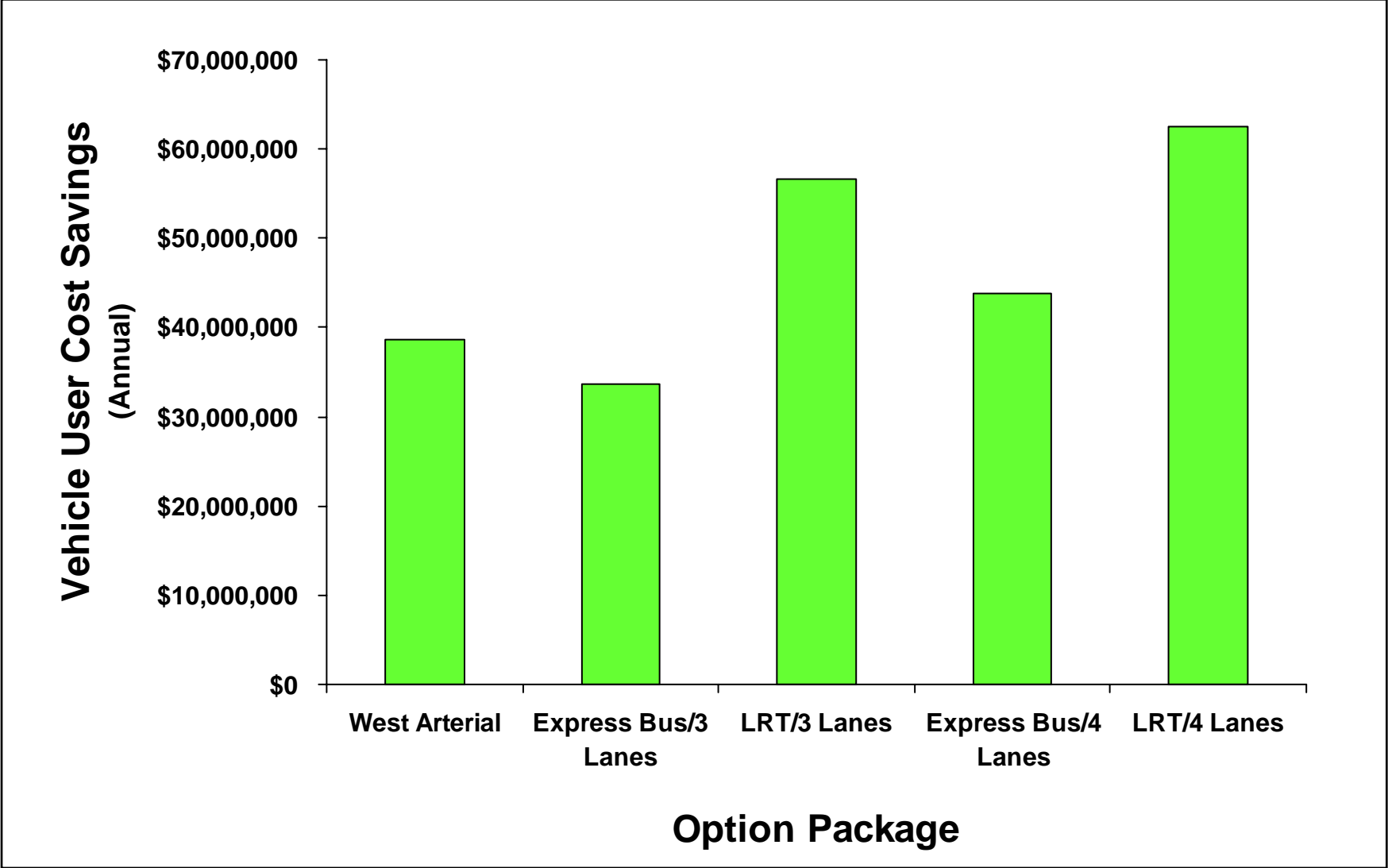
Vehicle Hours of Delay in the Study Area (PM Peak)



Regional VMT per Capita

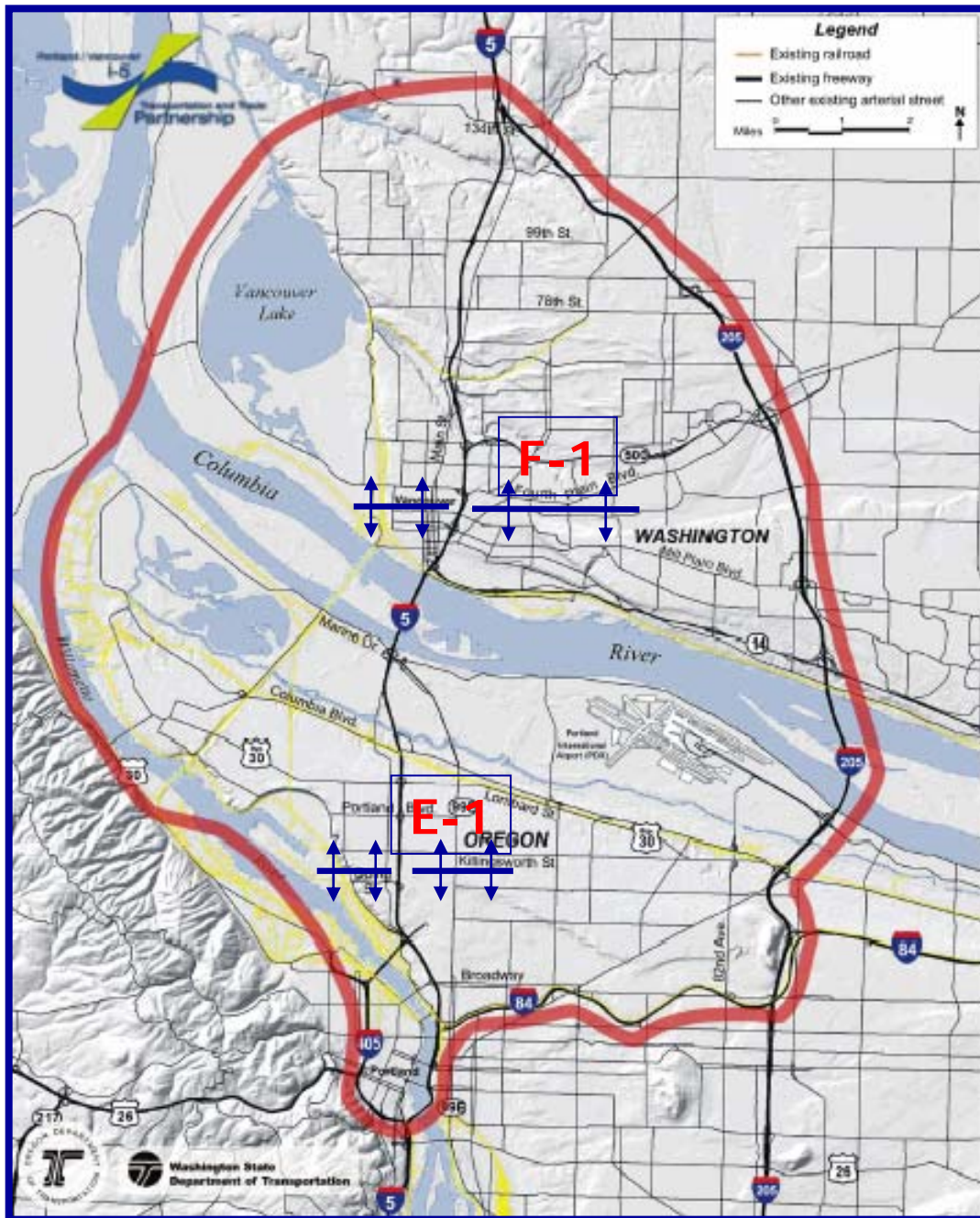


Vehicle User Cost Savings Compared to Baseline Conditions (Annual)



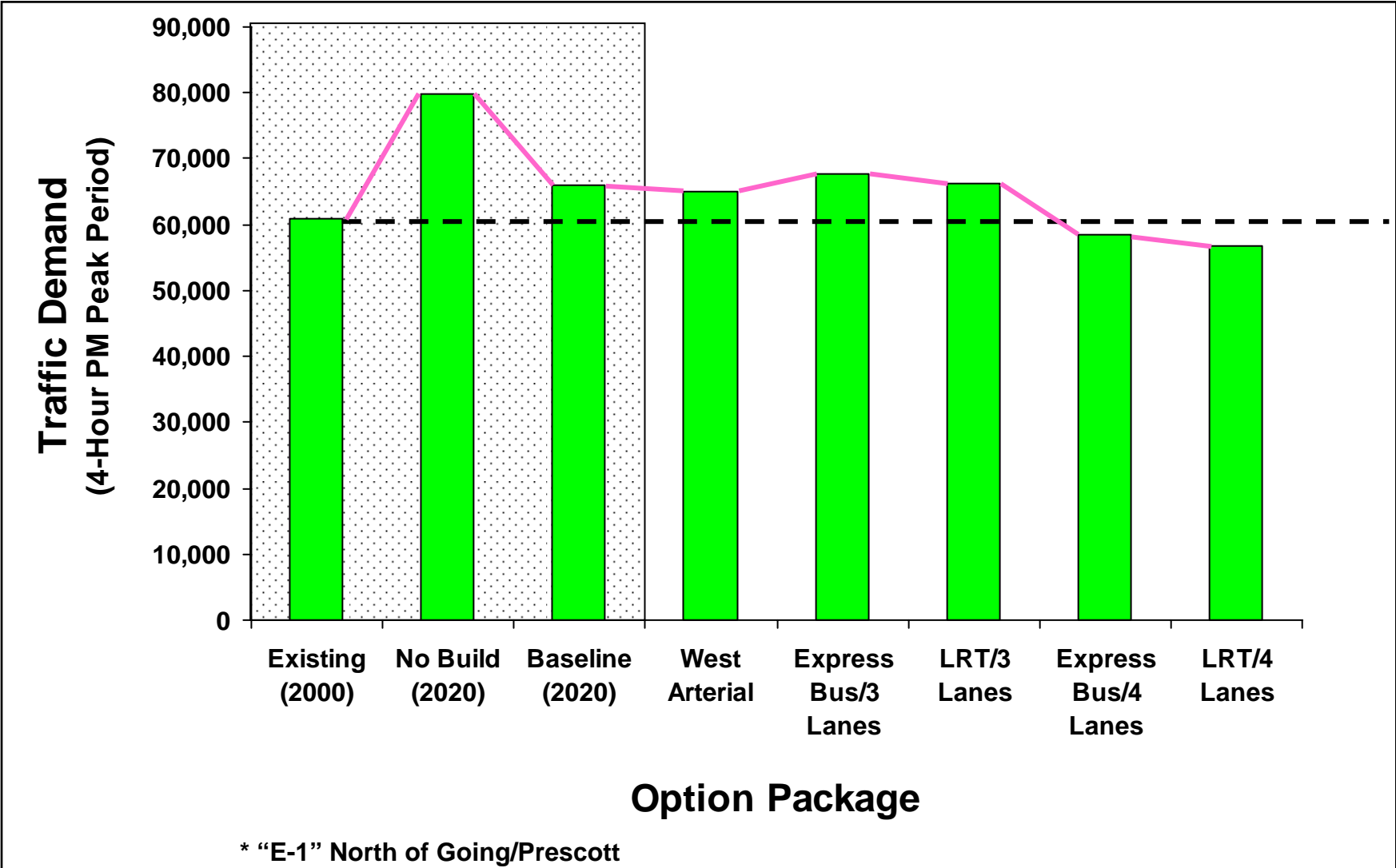
Traffic on Arterial Roadways

- In the future, traffic is expected to grow slightly on arterial roads in the study area.
- None of the build options address this problem.

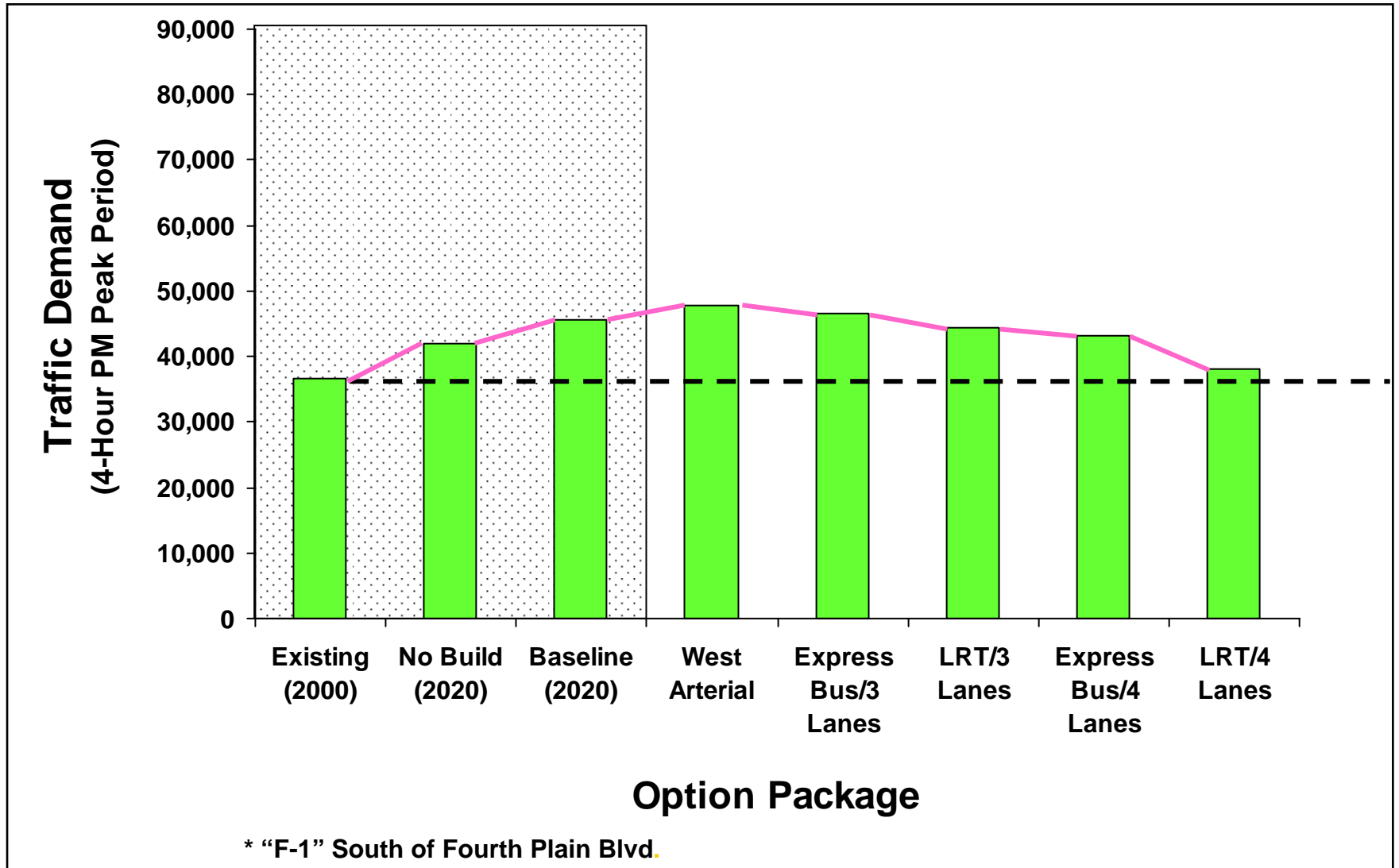


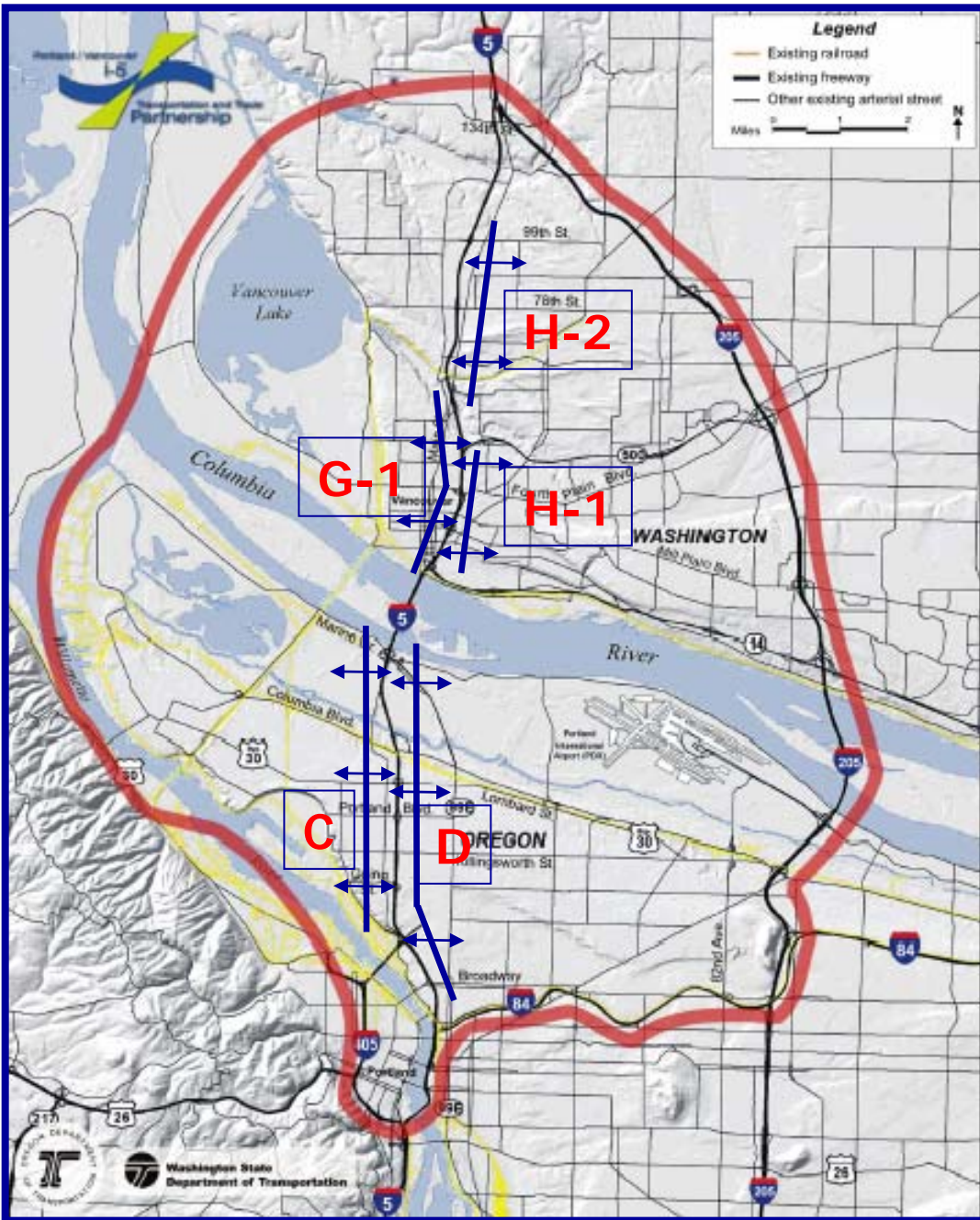
“Screenlines” for Selected North-South Arterials

Traffic on Portland North-South Arterial Roadways* (PM Peak)



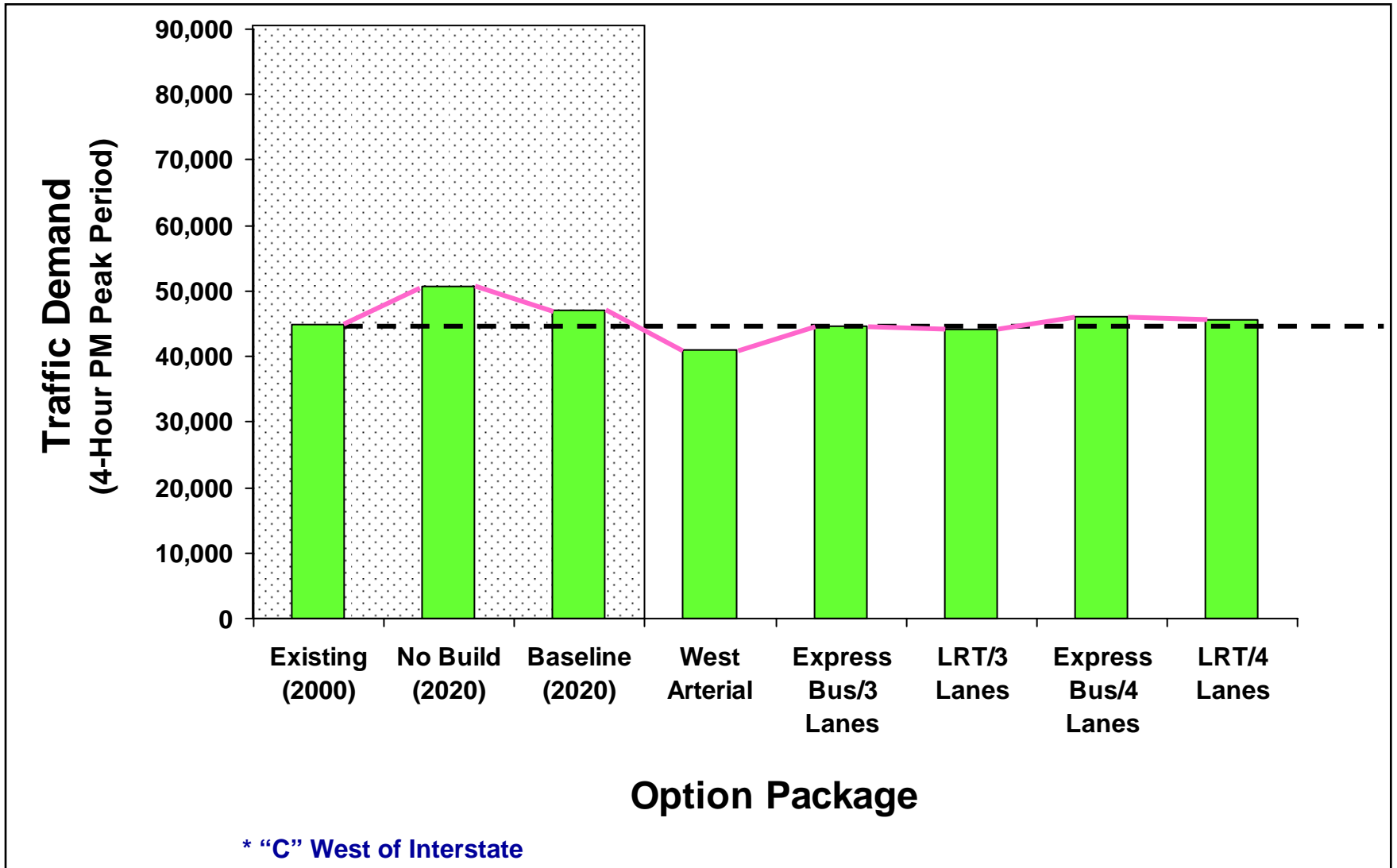
Traffic on Vancouver North-South Arterial Roadways* (PM Peak)



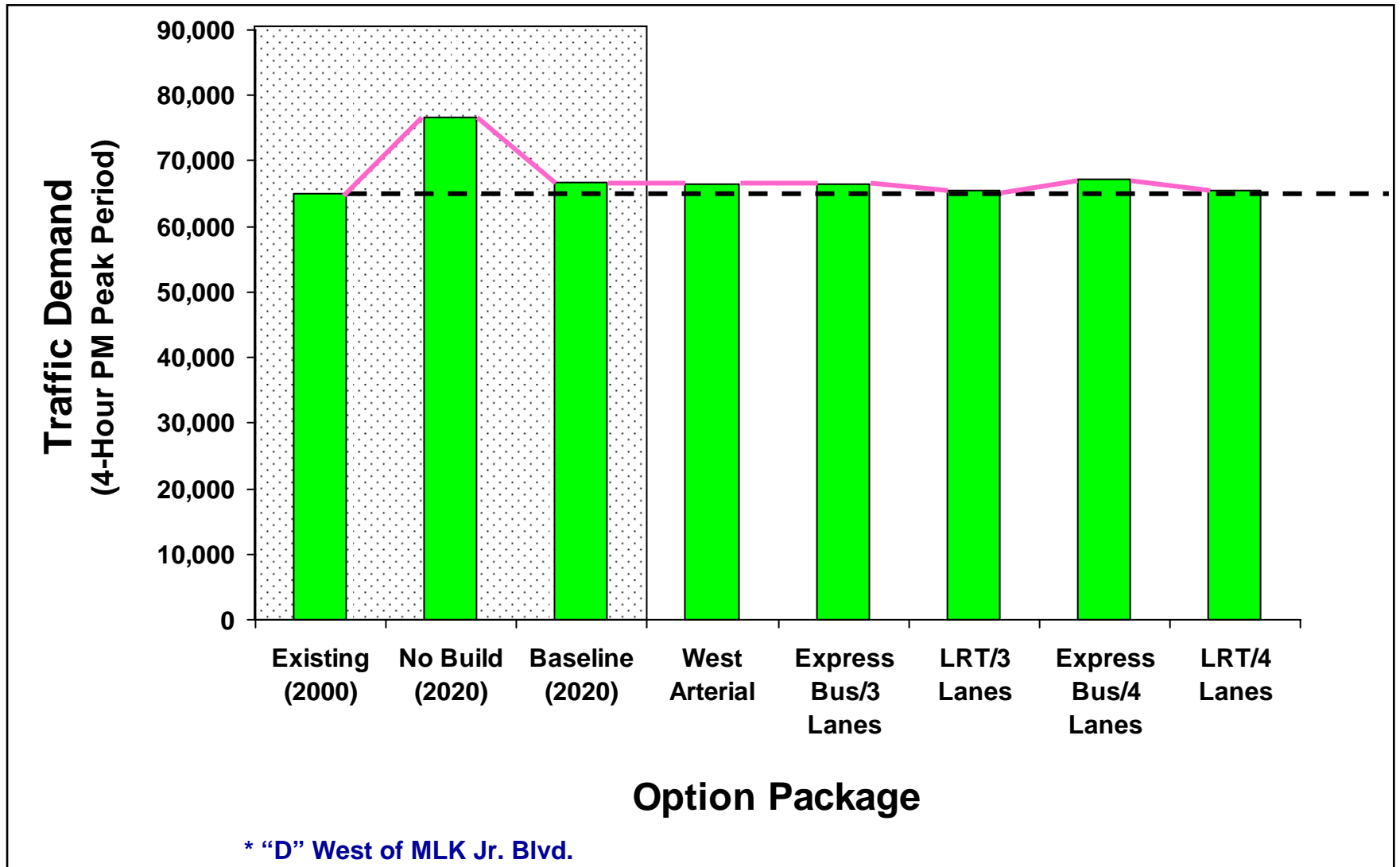


“Screenlines” for Selected East-West Arterials

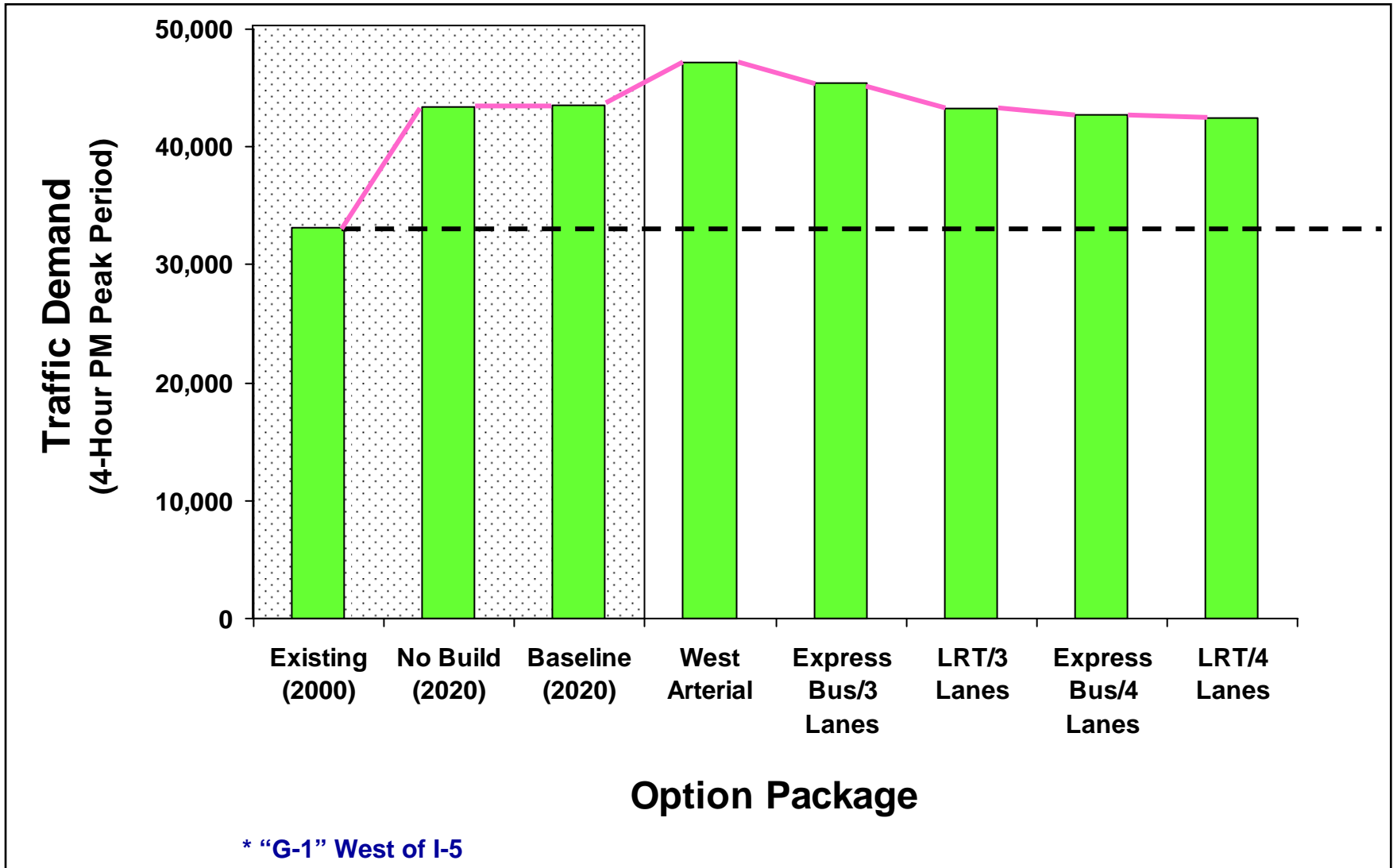
Traffic on Portland East-West Arterial Roadways West of I-5* (PM Peak)



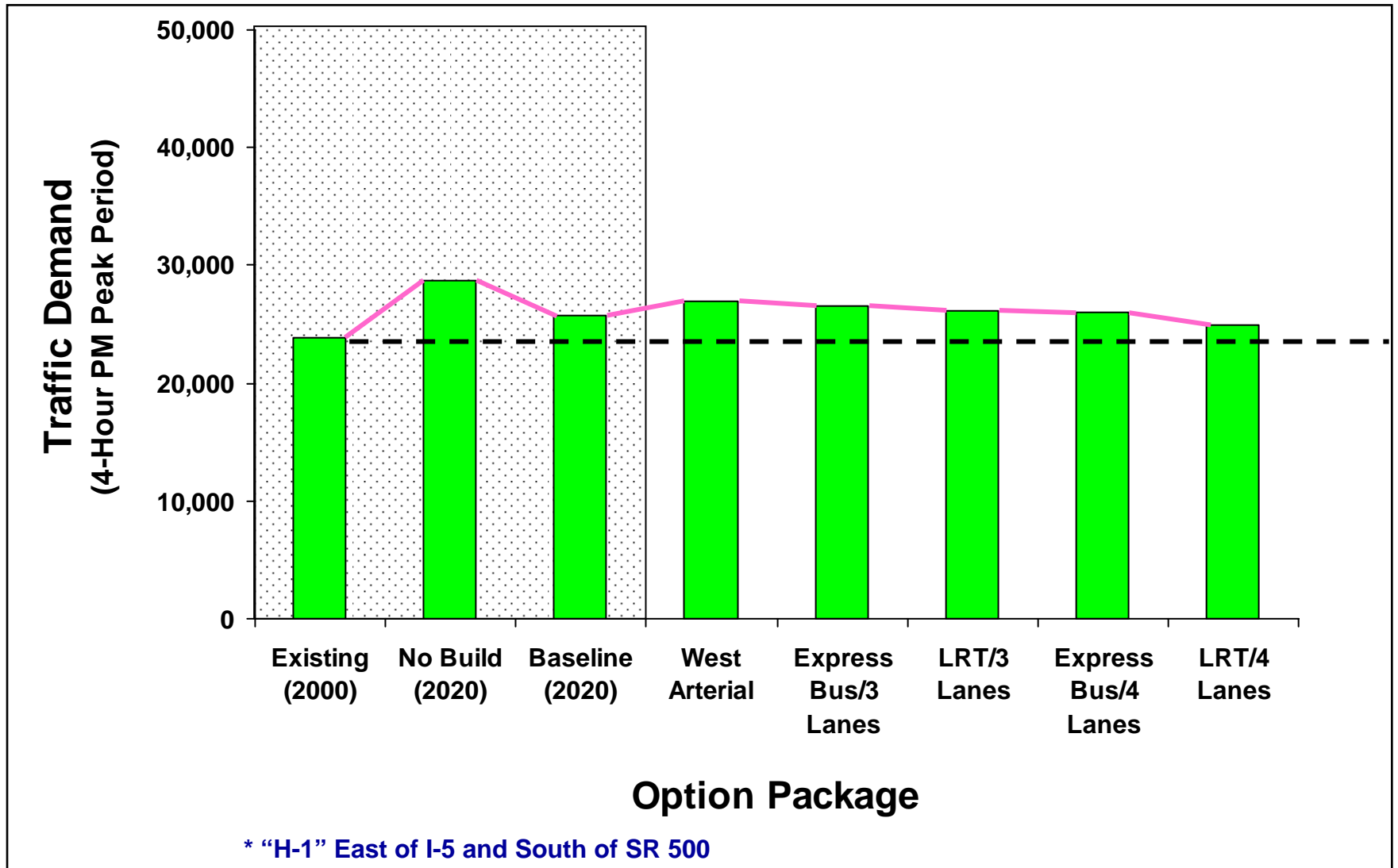
Traffic on Portland East-West Arterial Roadways East of I-5* (PM Peak)



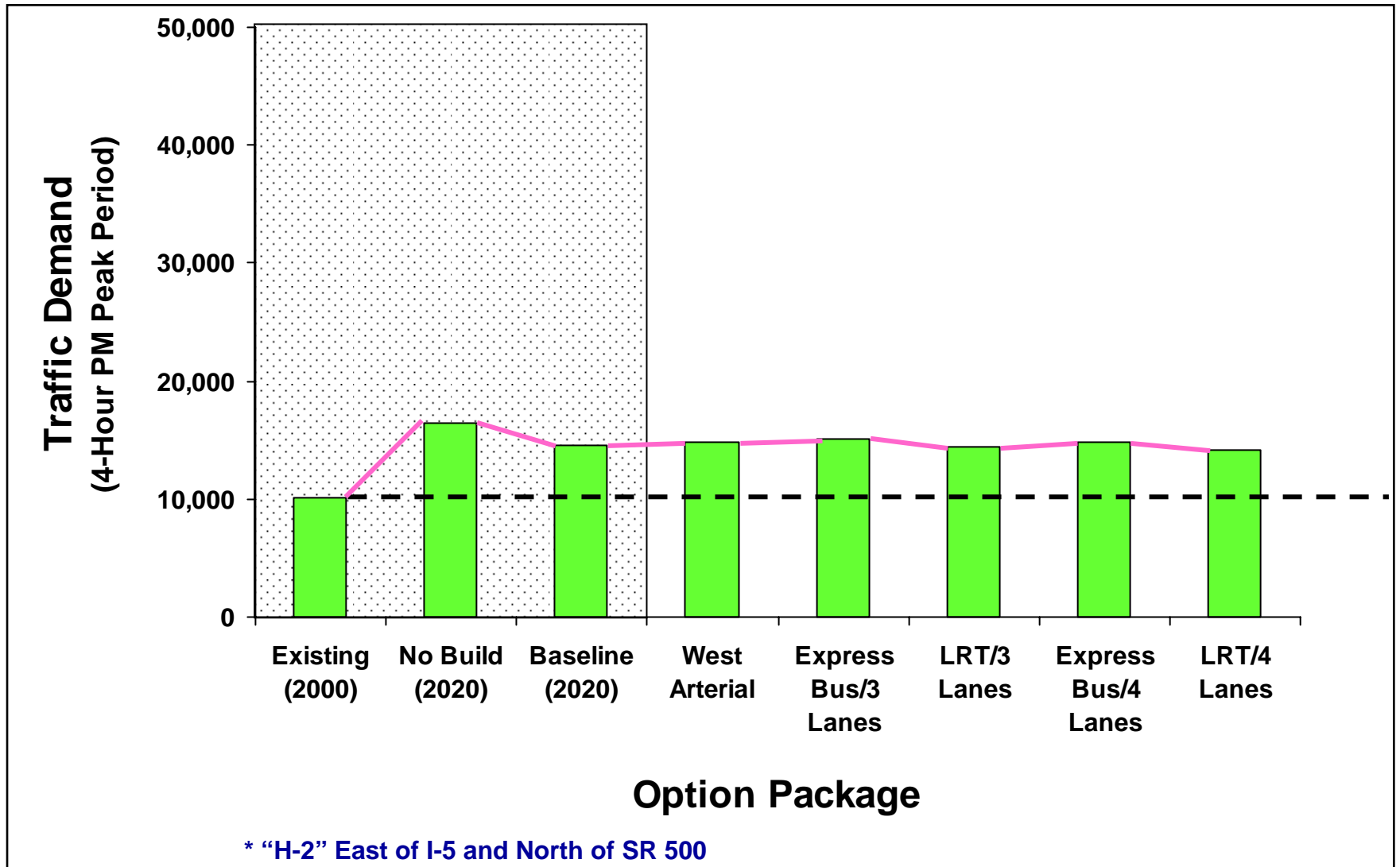
Traffic on Vancouver East-West Arterial Roadways West of I-5* (PM Peak)



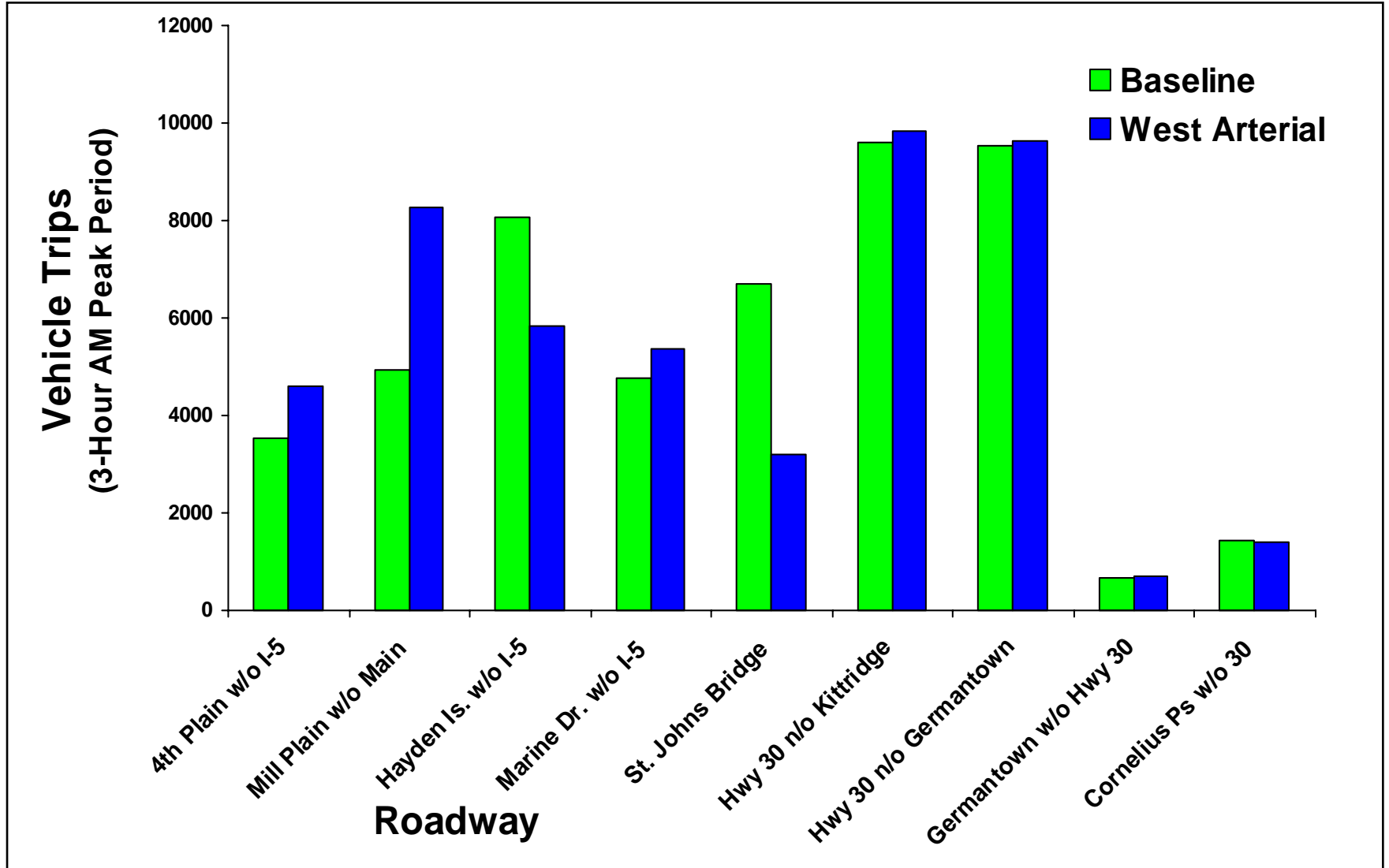
Traffic on Vancouver East -West Arterial Roadways East of I-5 and S. of SR 500* (PM Peak)



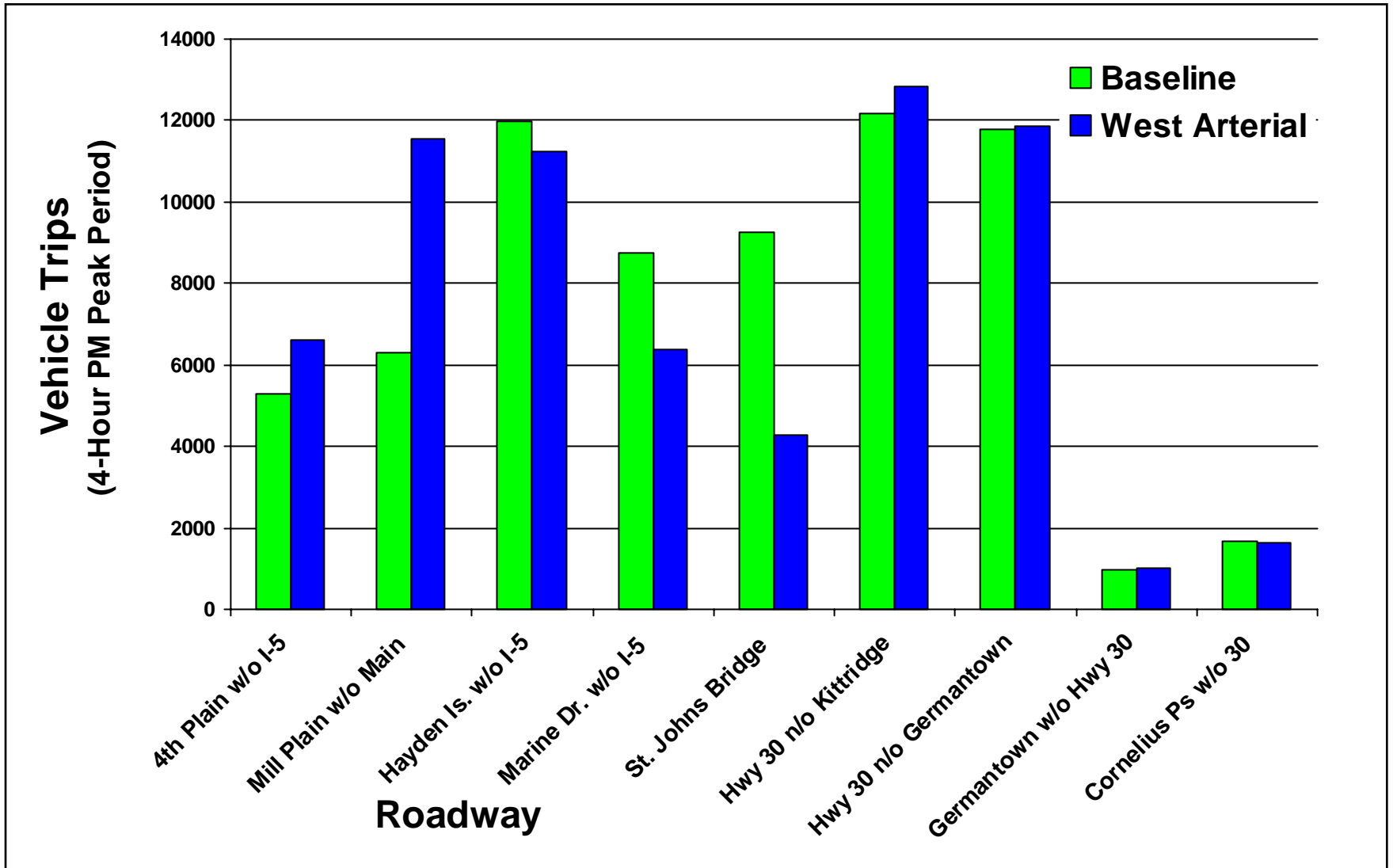
Traffic on Vancouver East-West Arterial Roadways East of I-5 and N. of SR 500* (PM Peak)



Vehicle Trips on Selected Roadways (AM Peak)









Vehicle Trips on Selected Roadways (PM Peak)



Environmental Findings

Summary of Environmental Impacts

<i>Baseline (compared to today)</i>	Historic Properties	Fish	Wildlife	Wetlands	Vegetation	Displacements ¹	Air Quality ²
							
	none	moderate	minor	minor	minor	moderate	<i>better</i>

↓ Compared to baseline.....Additional impacts.....Compared to baseline ↓

<i>Express Bus/3 lanes</i>	minor	moderate	minor	minor	minor	minor to moderate ³	minor (better)
<i>Light Rail/3 lanes</i>	minor	moderate	moderate	minor to major ⁴	minor to moderate ⁴	minor to major ^{3, 4}	minor (better)
<i>Express Bus/4 lanes</i>	minor <i>or</i> major ⁵	moderate	minor	minor	minor	minor to moderate ³	moderate (better)
<i>Light Rail/4 lanes</i>	minor <i>or</i> major ⁵	moderate	minor to moderate ⁴	minor to major ⁴	minor to moderate ⁴	minor to major ^{3, 4}	moderate (better)
<i>West Arterial Rd.</i>	none	moderate	moderate	major	major	Moderate	moderate (better)

1. This does not include displacements from a new bridge. Options vary for each package.
2. All options have better air quality than today.
3. Optional interchange alignments in Vancouver would have a number of impacts.
4. I-5 and I-205 segments of Light Rail have minor impacts. East/west segment could have a number of impacts, depending on alignment.
5. Depends on whether the bridge is replaced or supplemented (the bridge is historic).

Historic Properties



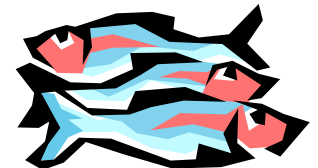
- The Columbia River Bridge is the only historic property that may be displaced.
- If additional bridge capacity is needed, it could be provided either by supplementing the current bridge or replacing it.



Fish, Wildlife, Wetlands and Vegetation



- For light rail, the I-5 and I-205 segments would have only minor impacts. The current concept for the east/west segment could have major impacts to several natural areas. Actual impacts would depend on the final alignment.
- The West Arterial as it is currently conceived would affect several natural areas, including Hayden Island and Smith Lake.
- All “build” options include some construction along the Columbia River, North Portland Harbor and the Columbia Slough, which could have some impact on fish habitat.



Displacements



All displacement estimates are based on very preliminary design concepts.

- For the **Baseline option**:
 - About 5 households and 7 businesses could be displaced for the Rose Quarter improvement.
 - There would be no displacements under the current design for the Delta Park to Lombard section.
- For the **Light Rail Loop**:
 - The I-5 and I-205 segments would have very few displacements (about 4 businesses for the I-5 segment, and 1 business and 3 households along I-205).
 - The east/west alignment, as developed for this study, could displace about 50 households and 7 businesses. (These estimates could change significantly based on the route.)
 - There could also be a number of properties affected by encroachment.

Displacements cont.



- Adding a **4th Lane**:
 - In Oregon, could displace 3 households and 4 businesses.
 - In Washington, IF the interchanges are upgraded as designed, nearly 30 households and 3 businesses could be displaced; IF NOT, there could be no household displacements.
- The **West Arterial** could displace 14 households and 1 business in Oregon and 1 business in Washington.
- **Bridge or tunnel options** across the Columbia River:
 - Replacing the current I-5 bridge would displace two 2 businesses and no homes.
 - Options for a supplemental bridge or tunnel near the old one range from 5 to 25 displacements.

Air Quality



- Good news! Air quality in the future should be far better, regardless of which option we select; because in the future:
 - Important new regulations go into place for trucks and other commercial vehicles.
 - There are fewer older inefficient cars
 - Fuel is cleaner
- The 4th Lane option and the West Arterial option have moderate air pollutant increases over the Baseline (still considerably less than today) because they each create significant capacity.

Regional Land Use Findings

I. REGIONAL LAND USE FINDINGS: WITHOUT INVESTMENT

- Regional Population and Employment Growth: More Spread Out
- Clark County: More Jobs and Lower % of Commuters Crossing the Columbia
- I-5 Still Congested!

Without Investment - cont.

- Columbia Blvd. Corridor's Congestion and Reduced Travel Reliability: Adverse Economic Effect
- Industrial Areas near Interchanges At Risk
 - a. Availability of Industrial Land Threatened
 - b. Increased Congestion.

II. REGIONAL LAND USE FINDINGS: WITH INVESTMENT*

- Travel Time Savings Attract Employment Growth towards Desired Locations
- New Job Opportunities for North and Northeast Portland Residents
- Increased Demand for Housing in Clark County due to:
 - » Better Access to Oregon Jobs, and
 - » More Clark County Jobs

With Investment - cont.

- Increased Pressure to Expand Clark County's Urban Growth Area:
 - Without Expansion, Housing Prices will Rise
 - With Expansion, Housing Growth will Exceed Job Growth
 - Either Way: More Commuting to Oregon

With Investment - cont.

- Desirable Mixed Use and Compact Housing around Transit Stations
 - If Local Government Implement Necessary Changes
- Undesirable Conversion of Industrial Areas around Interchanges
 - If Local Government Doesn't Implement Necessary Changes

With Investment - cont.

- More Jobs May be Attracted to the Region
- Region will Function More as One Economy

III. LAND USE IMPACTS OF INVESTMENT OPTIONS

A. Overall Impacts

- Growth: Induced by Travel-time Savings
- Land Use Impacts also Depend on Zoning, Utilities, Local Policies and Incentives

B. Highways vs. Transit

- Highways Serve Passenger and Freight
- Transit Serves Passenger Only
- Highways Attract More Employment Than Transit
- Highway Effects are Dispersed
- Transit Impacts are More Localized

Land Use Impacts - cont.

C. New Corridors (e.g., the West Arterial)

- Provide Accessibility to New Areas and Induce Growth There

D. Express Bus vs. Light Rail

- Key Factor: Ridership - More Riders = Greater the Benefits to Adjacent Property
- Express Bus will Induce Development at Either End of the Trip
- Light Rail will Induce Development at Multiple Locations

Land Use Impacts - cont.

E. 3 Lanes vs. 4 Lanes Options

- 4 Lanes: Greater Land Use Effects than with 3 Lanes:
 - More Employment Attracted to Corridor
 - Greater Pressure on Clark County Housing
- 3 Lanes: Greater Land Use Effects than “Baseline 2020” or “Do Nothing Alternatives”
- Both will have Less Travel-Time Savings When Additional Induced Traffic is Considered

IV. LAND USE STRATEGIC POLICY OPTIONS

(Committee Recommendations for Further Study are Shaded)

Land Use Strategies	Level of Intensity		
	Level A : Status Quo	Level B :	Level C : Mandatory
1. Interchange and Transit Station Area Management Plans <i>Regulate areas most affected by land value changes</i>	<i>No Plans</i>	<u>Voluntary</u> Intergovernmental Agreements For <u>Existing Capacity</u> .	<u>Mandatory</u> Intergovernmental Agreements For <u>New Cross-River Capacity</u>
2. Integrated Regional Plans <i>Coordinate bi-state transportation land use plans and actions</i>	<i>Consultation Only</i>	<u>Coordinated</u> Planning	<u>Mandatory</u> Planning.
3. Transportation Demand Management and Transportation System Management Policies <i>Encourage alternative modes and efficient use of road capacity</i>	<i>Different Levels of Commitment</i>	<u>Consistent Levels of</u> Commitment. Bi-State <u>Coordination</u> .	<u>Consistent Levels of</u> Commitment. Bi-State <u>Enforcement</u> .

Frequently Asked Questions

Performance of the “Enhanced TDM” Option

- Increases transit ridership across the Columbia River by 120%
- Increases transit trips from Vancouver CBD (from a 6.7% mode share to 18.5%)
- Maintains travel times in the I-5 corridor for trucks and autos similar to today's conditions
- Provides the least benefit for the following:
 - Peak period congestion on I-5 and I-205
 - Peak period delay for autos and trucks
 - Congestion on study area truck routes

West Arterial Roadway Segment only Between Columbia Blvd. and Vancouver

- Two-thirds of the traffic crossing river is between West Vancouver and Columbia Corridor/North Portland, i.e. the bridge would be heavily utilized (50-60% of capacity compared to about 80% for long version of option)
- Impacts to Vancouver streets would be significant, but less than the “long” option. Mitigation would still be required.
- Does not relieve traffic in St. Johns neighborhood or on the St. Johns bridge.

Assessment of Two-Lane Supplemental Bridge between Marine Drive and Vancouver

- Would not be replacement for freeway access
- Would not address over-capacity conditions on freeway
- Would be heavily utilized, and during congested periods on freeway would experience “spillover” congestion
- Would increase traffic on Marine Drive and at Marine Drive/I-5 interchange
- Would not provide opportunity for HOV lanes across the river

Impacts of Providing HOV Lanes on the Existing Interstate Bridge

- Converting an existing lane to HOV use:
 - Would significantly reduce travel speeds for remaining general purpose lanes.
 - In vicinity of bridge, right lanes function as auxiliary lanes for on- and off-ramps. Converting inside lane to HOV leaves only one functioning general purpose through lane.
- Constructing a reversible HOV lane:
 - Would significantly increase congestion in remaining lanes in off-peak direction.
 - Reversible lanes require wide shoulders on both sides and are difficult to manage on a lift-span.

Interstate Bridge Maintenance Costs

- Estimated cost for seismic retrofit: \$120,000,000
- Capital maintenance costs: \$38,000,000
 - Rehabilitate electrical system: \$6,000,000 (funded)
 - Replace northbound structure trunnion assemblies: \$4,000,000
 - Paint southbound structure: \$20,000,000
 - Overlay the deck: \$8,000,000

Costs for Light Rail by “Segment”

- Expo to Clark College: \$291 million
- Clark College to Vancouver Mall (via SR 500): \$257 million
- Airport Junction to NE 83rd: \$673 million