Twin Tunnels
Environmental Assessment

Purpose:	**Project Leadership Team and Technical Team Combined Meeting**		
Day:	**Thursday**	Date:	**March 15, 2012**

Location:	**CDOT Traffic Operations Center, Golden, Trail Ridge Conference Room**

Participants:

Project Leadership Team

Attendee	Representing	
Ben Acimovic	CDOT R 1	Y
Chuck Attardo	CDOT R 1	
Jim Bemelen	CDOT R 1	Y
Allan Brown	Atkins	Y
Tony DeVito	CDOT	
Angie Drumm	CDOT Local	
Janet Gerak	CDOT R 1	
Vanessa Henderson	CDOT EPB	Y
Randy Jensen	FHWA	Y

Attendee	Representing	
Gina McAfee	Jacobs	Y
Tim Mauck	Clear Creek Co.	
Jack Morgan	Idaho Springs	Y
Pat Noyes	Pat Noyes	Y
Kevin O'Malley	Clear Creek Co.	Y
David Singer	CDOT	Y
Melinda Urban	FHWA	Y
Mary Jo Vobedja	CH2M HILL	Y
Mandy Whorton	CH2M HILL	Y

Technical Team

Attendee	Representing	
Ben Acimovic	CDOT R 1	Y
Chuck Attardo	CDOT R 1	
Phyllis Adams	Upper CC Watershed Assn.	Y
Carol Anderson	EPA	Y
Rick Beck	Clear Creek Co Public Works	
Jim Bemelen	CDOT R 1	Y
Rena Brand	USACE	
Tom Breslin	Clear Creek Co.	Y
Allan Brown	Atkins	Y
Steve Cook	DRCOG	Y
Maria D'Andrea	Jefferson Co.	Y

Attendee	Representing	
Carol Kruse	USFS	Y
Jason Longsdorf	PB	Y
Gina McAfee	Jacobs	Y
Bill Macy	Idaho Springs	
Alison Michael	USFWS	Y
Cindy Neely	Clear Creek Co.	Y
Ty Petersburg	Colorado Parks & Wildlife	
Amy Pallante	SHPO	
Bob Quinlan	Jacobs	Y
Colleen Roberts	CH2M HILL	Y
Martha Rudolph	CDPHE	

Attendee	Representing	
Jim DiLeo	CDPHE	Y
John Doan	Atkins	Y
Gary Frey	Colorado Trout Unlimited	Y
Janet Gerak	CDOT R 1	
Stephanie Gibson	FHWA	
Dan Gibbs	Summit County	Y
Dave Hattan	FHU	Y
Vanessa Henderson	CDOT EPB	
Nicolena Johnson	Clear Creek EMS	N

Attendee	Representing	
Steve Rudy	DRCOG	Y
Kevin Shanks	THK	Y
Tom Schilling	Intermountain Corporate Affairs	Y
David Singer	CDOT	Y
Jo Ann Sorensen	Clear Creek Co.	Y
Mary Jo Vobejda	CH2M HILL	Y
Mandy Whorton	CH2M HILL	Y

Discussion Items

Welcome and Introductions

Jim Bemelen reviewed the agenda. Participants introduced themselves.

Other Corridor Project Schedules and Updates

Other Corridor Project Schedules and Updates

Collaborative Effort Meeting

Jim Bemelen said the agenda item drawing the most interest at the Collaborative Effort Meeting was the discussion of the release of the Request for Statements of Interest in response to an unsolicited proposal submitted by Parsons Transportation Group last summer. Jim said the proposal was submitted to the High Performance Transportation Enterprise (HPTE) but the Request for SOIs will be released by Region One on Friday, March 16th. The goal is to find economically feasible and innovative ways to fund improvements to the I-70 Mountain Corridor. Other discussion items were an update on the Twin Tunnels project, managed lanes and hard shoulder running. Jim reported that there were no specific questions or concerns with the Twin Tunnels project.

Combined Twin Tunnel and Frontage Road Schedules

Ben Acimovic said the schedule for both projects should be finalized early next week and ready for distribution to both the Project Leadership and Technical Team.

Frontage Road

Ben said the advertisement of the plans for contractors to bid on the Frontage Road will be released on April 19th and it will take approximately five or six weeks for the selection process and notice to proceed. He expects the work on the Frontage Road to start in late May or June.

Xcel Energy is starting the utility relocation work on the Frontage Road on March 19th. Clear Creek County is concerned because Xcel Energy said the Frontage Road will be closed entirely during the relocation work. Tom Breslin asked if CDOT would be able to negotiate to have it open for recreational users during non-working times. CDOT said they didn't have a contract with Xcel Energy for this work and didn't think they would be able to influence them. Clear Creek County did give Xcel Energy the permit to do the work and the County may have more

pull than CDOT does. **Ben offered to set up a meeting the Xcel and Clear Creek County to discuss having the Frontage Road open for recreational use during the utility relocation.**

The Frontage Road will be closed to vehicle traffic from June through October while CDOT performs their work. One lane will be open for EMS and recreational users during non-working hours. The road will reopen November 1st until March 2013 when it will be used as a detour for I-70 traffic.

Twin Tunnel Updates

The decision document is expected to be signed in early November. Shortly thereafter work that does not require detouring I-70 traffic will begin. This may include work on the exterior of the Twin Tunnels, on the walls at Hidden Valley, on the transition to the detour, and the Doghouse Rail Bridge. After ski season is over, traffic will be shifted to the Frontage Road detour and the work on the inside of the tunnel will start. Halloween 2013 is the target date for the new eastbound tunnel to be open to traffic.

The April PLT Meeting will introduce Edward Kramer & Sons to the PLT & TT. This firm has a strong public involvement department that will be working closely with CDOT and Atkins on getting announcements released on the Twin Tunnel construction & impacts to traffic on I-70. **Clear Creek County would like to be involved in the messaging to insure that the public knows that businesses in the area are open and have the welcome mat out.**

Jim said since they are going to be on site, the CMGC may give CDOT an excellent bid on the Frontage Road project.

In May, Atkins will be introduced as the design team, and Kraemer and Sons will be introduced as the contractor.

Issue Task Forces

The Issue Task Forces Summary **(Attachment 2)** was distributed at the meeting. This document outlines what issues have been identified and the decisions made by the SWEEP, ALIVE and Section 106 Issue Task Forces. When impacts and mitigations are discussed at the April PLT/TT Meeting, there will be more discussion on what additional input is needed from these Issue Task Forces.

Jo Ann Sorenson suggested Air Quality may need more stakeholder discussion. The group agreed a meeting could be set up to discuss Air Quality issues if needed.

Traffic and Managed Lane Analysis and Decision Process

The presentation **(Attachment 3)** contains the graphs and more detailed analysis for the information presented below.

Traffic Overview and Results

Existing conditions for volume capacity at the Twin Tunnels is 3,200 vehicles per hour (VPH) (1,600 VPH per lane). Capacity feeding into the tunnels is approximately 2,000 VPH per lane or 4,000 VPH. Because the capacity of the tunnels is less than the receiving lanes, the tunnels are a pinch point and the start of backups to the west. Demand, particularly during peak travel periods such as Sunday, is much higher and creates queues to the west from 11:00 am to 9:00

pm. From Georgetown to US 6 free-flow speed condition travel time is 19 minutes. During peak travel periods the travel time can be as much as 117 minutes. The No Action alternative would bring travel time to 162 minutes in 2035.

Three general purpose lanes would increase capacity at the Twin Tunnels to 5,500 VPH so the tunnels are no longer the constriction since they are receiving 4,000 VPH and will have excess capacity under the Proposed Action. There will still be queues to the west because demand is greater than 4,000 VPH in peak periods.

Over the past 5 years, there were an average of 86 crashes per year through the project area. With the No Action alternative that number is projected to increase to 100 per year in 2035. Both the additional general purpose and managed lane show fewer projected crashes than current conditions and a decrease of 20 to 35 crashes per year in 2035 compared to the No Action alternative. The modification to the curve west of Hidden Valley is projected to substantially reduce crashes in that location (approximately 75 percent reduction).

Managed Lane Concepts

It was noted that the new lane could be operated as a managed lane or a general purpose lane. The purpose of the managed lane is to preserve capacity in the new lane and ensure travelers an option for reliable travel times. John Doan explained that there are many flavors of managed lanes being used across the country. The Twin Tunnels area is a unique location for a managed lane because most of the traffic is recreational and not commuter traffic. The terrain and road curvature are also unique. As currently designed, the managed lane would not be barrier-separated but instead would include just a painted barrier. The striping for the managed lane would begin just east of the East Idaho Springs interchange eastbound entrance ramp and would continue to approximately 1800' west of the US 6 Exit. Allan Brown noted that the transitions in and out of the managed lane could be refined if needed to improve safety or driver expectancy

The peak period threshold for putting the managed lane into effect is 2,900 VPH for more than three hours; the 2,900 VPH is the threshold at which point the general purpose lanes will become congested and there is an incentive to use the managed lane. Based on this threshold, the managed lane would have been in operation 28 Sundays and holidays and 14 Saturdays in 2010. By 2035, using the same 2,900 VPH threshold, the managed lane would be in operation 43 Sundays and holidays, 28 Saturdays, and 17 weekdays. The pricing for the managed lane would be variable and changed as needed to keep the lane free flowing.

CDOT has submitted an Expression of Interest in having a managed lane as part of the Twin Tunnels project to the Federal Highway Administration. The application to Denver Regional Council of Governments to amend the long-range transportation plan (RTP) also includes the potential for the managed lane. As part of the approval process, a decision will be made on what to do with the excess revenue if there is any left after O & M costs. The fee being considered based on 2010 volumes would be that the managed lane fee would be $1.00-$1.25 and would operate on Sundays from 12:30 to 6:30. In the future, fees and times used could increase based on the demand and need to manage traffic volumes.

Questions and Discussion of Effects

The group has these concerns:

- Lighting of the entire project area is an area of concern for wildlife and visual effects.
- Darkness and glare from oncoming traffic are of concern for safety.
- Weaving to get in and out of the managed lane are concerns for safety. Distance to enter managed lane at Idaho Springs and exit to get out at US 6 are safety concerns.
- How far west are you pushing the congestion?
- Signage. Where will the signs be mounted and what areas do they need to light up? **The group requested they be able to review the signage plan for the entire Twin Tunnels project.**

PLT/Technical Team Environmental Concerns and Follow-up

The list of Environmental Concerns and Follow-up needed **(Attachment 4)** was distributed at the meeting. Gina McAfee said the additional areas of concern that were discussed at today's meeting will be added and the revised list will be distributed to the resource specialists. At the next PLT/TT meeting there will be an update on the impacts and mitigation recommendations for the EA. It was confirmed that EA will make the recommendations and the specific mitigation commitments will be outlined in the decision document.

The group agreed that they would like to meet one hour before the next PLT/TT Meeting for an optional meeting for those who have an interest to discuss technical aspects of managed lanes. Loretta LaRiviere will send out a separate Outlook notice to the group for 8:00 – 9:00.

The next Twin Tunnels combined PLT & TT Meeting is Thursday, April 12th.

Attachment 1: Agenda

I-70 Twin Tunnels Environmental Assessment
Combined Project Leadership and Technical Team Meeting

Thursday, March 15, 2012
Golden Residency
9:00 am – 12:00 pm

1. Welcome and Introductions (Bemelen)

2. Other Corridor Project Schedules and Updates (Bemelen)
   - Collaborative Effort Meeting (Bemelen)
   - Combined Twin Tunnel and Frontage Road schedule (Bemelen)
   - Frontage Road (Acimovic)

3. Twin Tunnel Updates (Bemelen)
   - Issue Task Forces (Singer)

Handouts

Issue Task Force Summaries
PLT/TT Issues

4. Traffic and Managed Lane Analysis and Decision Process (Traffic Team)
   - Traffic Overview and Results
   - Managed Lane Concepts
   - Questions and Discussion of Effects

5. PLT/Techncial Team Environmental Concerns and Followup (McAfee)

6. Next Combined PLT/Tech Team April 12, 2012 (Bemelen)

Date	Group	Purpose
Mar 15	PLT and Tech Team	Traffic and Managed Lane Analysis
Apr 12	PLT and Tech Team	Discuss Impacts and Mitigation Intro to the CMGC and Design Teams Next Steps
May 10	**PLT or Tech Team**	Agenda To Be Determined
June	**PLT**	CMGC and Design Process Public Hearing
July 17	**Public Hearing**	

Attachment 2: Issue Focused Team Summary

Twin Tunnels and Frontage Road
SWEEP Issue Task Force

Purpose

The I-70 Mountain Corridor SWEEP MOU states that the implementation of the Stream and Wetland Ecological Enhancement Program (SWEEP) recommendations is subject to the respective parties' planning, National Environmental Policy Act (NEPA), and decision-making requirements. SWEEP activities and recommendations should coordinate with the MOU and recommendations of A Landscape Level Inventory of Valued Ecosystem components (ALIVE). Specific implementation steps are provided for the following:

- **Project-Specific SWEEP Teams**
- **Mitigation Development Process for Tier 2 Documents**
- **Implementation Matrix**
- **Development and Implementation of Sediment Control Action Plans (SCAPs)**

Participants

The following were invited to or attended the SWEEP meetings and received the meeting notes:

Ben Acimovic, CDOT
Phyllis Adams, Upper Clear Creek Watershed Assn.
Samer Alhaj, CDOT
Bill Andree, Colo. Parks & Wildlife
Kevin Bayer, USFS
Sandy Beazley, Jacobs
Jim Bemelen, CDOT
Rena Brand, USACE
Allan Brown, Atkins Global
Joan Carlson, USFS
Carl Chambers, USFS
John Connelly, Michael Baker
Jeff Crane, Colorado Watershed Assembly
Mike Crouse, Clear Creek Consultants
Lynne Deibel, USFS
Reid DeWalt, Colo. Parks & Wildlife
Jim Eussen, CDOT
Matt Fairchild, USFS
Sarah Fowler, EPA
Tom Fresques, BLM
Gary Frey, Colo. Trout Unlimited
Janet Gerak, CDOT
Stephanie Gibson, FHWA
Al Gross, CDOT
Tom Hale, Town of Georgetown
Sherman Hebein, Colo. Parks & Wildlife
Holly Huyck, CDOT
Randy Jensen, FHWA
Tamara Keefe, Michael Baker
Ken Kehmeier, Colo. Parks & Wildlife
Julia Kintsch, ECO-resolutions
George Krawzoff,
Kelly Larkin-McKim, USFS
Fred Lyssy, Upper Clear Creek Watershed Assn.
Wendy Magwire, USFS
Tim Mauck, Clear Creek County
Alison Michael, US Fish & Wildlife Service
Gina McAfee, Jacobs
Bill Miller, Ecological Consultants
Matt Montgomery, USACE
Marc Morton, CDOT
Sybill Navas, Colo. Water Quality Control Com.
Cory Nicholson, Town of Georgetown
Rebecca Pierce, CDOT
Bob Quinlan, Jacobs
Ed Rapp, Clear Creek Watershed Fndn.
Terry Shendleman, CDOT
David Singer, CDOT
Jo Ann Sorensen, Clear Creek County
Francesca Tordonato, Jacobs
Melinda Urban, FHWA
Tom Weber, USDA-NCRS
Mark Weinhold, USFS
Deanna Williams, USFS
Paul Winkle, Colo. Parks & Wildlife

Meetings

October 19, 2011

- Confirmed SWEEP Committee membership
- Reviewed the SWEEP MOU and Implementation Matrix
- Identified SWEEP issues associated with Twin Tunnels Project

November 30, 2011

- Reviewed inputs and considerations from SWEEP Implementation Matrix
- Endorsed project approach to SWEEP concerns
- Reviewed mitigation options

January 19, 2012

- Reviewed evaluation results
- Discussed recommendations on SWEEP elements

Issues to Address

Water Quality - Sediment Management	
Issue	***How it will be addressed***
Excavated rocks and possibilities for exposing mineralization	Tunnel and roadway boring sampling and analysis plan (SAP)
Sediment control and ongoing maintenance of BMPs	Clear Creek SCAP
Water Quality – Clean Water Act	
Event impacts	Monitoring Boring SAP
This segment of Clear Creek is on the Section 303(d) list for cadmium	Boring SAP Water quality monitoring
Dewatering	Boring SAP Well sampling
Spill control	Clear Creek SCAP
Water Quality - Mine Workings	
Area of mineralized rock and mine workings east of Idaho Springs and west of Twin Tunnels	Review and document, develop recommendations Materials management plan
County Road 314 could have mine waste as sub-base material	Review and document, develop recommendations Materials management plan
South side of I-70, north bank, east of the Twin Tunnels	Review and document, develop recommendations Materials management plan
Water Quality - Mine Waste	
Mine waste impacts and mineralized rock disposal	Determine the need for a Liability Relief Memo
Natural Habitat – Wetlands Protection	
Wetlands impacts	Wetland delineation
Natural Habitat – Aquatic Species	
Aquatic species impacts, including construction impacts	Ecological and species inventory
Information & Research Needs	
Repository for project data	Identify and post additional data on CSS website

Twin Tunnels and Frontage Road
ALIVE Issue Task Force

Purpose
I-70 currently crosses several traditional wildlife movement and migration routes, limiting access or creating a barrier to critical habitat. These areas are known as wildlife linkage zones (LIZs). As part of the I-70 Mountain Corridor Programmatic Environmental Impact Statement (PEIS), the committee overseeing A Landscape Level Inventory of Valued Ecosystems (ALIVE) identified wildlife crossings and mitigations at critical wildlife LIZs along the corridor where wildlife movements are impeded. The ALIVE Memorandum of Understanding and the list of LIZs and their associated recommendations can be accessed for information on the agreements and recommendations developed by the ALIVE Committee.

Participants
The following were invited to or attended the ALIVE meetings and received the meeting notes:

Ben Acimovic, CDOT
Bill Andree, Colo Parks & Wildlife
Chuck Attardo, CDOT
Robert Belford, Wilson & Company
Jim Bemelen, CDOT Region 1
Allan Brown, Atkins Global
Kevin Brown, CDOT
Lance Carpenter, Colo. Parks & Wildlife
Russel Cox, CDOT
Jeff Crane, Colo. Watershed Assembly
Lynne Deibel, USFS
Paula Durkin, CDOT
Fran Enright, Clear Creek County
Jim Eussen, CDOT
Tom Fresques, BLM
Janet George, Colo. Parks & Wildlife
Janet Gerak, CDOT
Stephanie Gibson, FHWA
Wes Goff, Atkins
Tom Hale, Town of Georgetown
Vanessa Henderson, CDOT
Randy Jensen, FHWA
Tamara Keefe, Michael Baker
Julia Kintsch, ECO-REsolutions
Ben Kraft, Colo. Parks & Wildlife
George Krawzoff
Carol Kruse, USFS
Gina McAfee, Jacobs
Wendy Magwire, USFS
Alison Michael, US Fish & Wildlife Service
Bill Miller, Ecological Consultants
Martha Miller, CDOT
Ashley Nettles, USFS
Ty Petersburg, Colorado Parks & Wildlife
Jeff Peterson, CDOT
Bob Quinlan, Jacobs
Chad Salli,Town of Vail
Todd Schmidt, Colo. Parks & Wildlife
David Singer, CDOT
Paige Singer, Rocky Mountain Wild
Sean Shepherd, Colo. Parks & Wildlife

Meetings
November 9, 2011
- Confirmed ALIVE Committee membership
- Reviewed the ALIVE MOU and list of LIZs
- Presented *A Regional Ecosystem Framework for Terrestrial and Aquatic Wildlife along the I-70 Mountain Corridor in Colorado*
- Identified ALIVE issues associated with Twin Tunnels and Frontage Road Projects

January 20, 2012
- Reviewed evaluation results

- Discussed recommendations on ALIVE elements

Issues to Address

Issue	***How it will be addressed***
Barrier separation along Clear Creek Greenway	Identify location for breaks and consider various designs and types
Need to provide pathway for deer and elk under Hidden Valley bridge over Clear Creek	Will include deer passage under bridge and improve bench in project design
Sheep get stuck in the fence along north side of I-70 at the west portal of the westbound tunnel	Minimal fencing. If needed, must meet CPW guidelines
Fencing needed on south side of the tunnel during I-70 construction to redirect wildlife downstream away from the detour	Temporary fencing will be installed on the north side of old US 40 from the west portal to the doghouse bridge. Temporary lighting will be used during detour.
Consider opportunities to accommodate wildlife in culvert west of the Twin Tunnels near Clear Creek Rafting	Maintain access on the south end to allow animals to move up and down Clear Creek. Improve drop from outlet.
Aquatic and fish permeability and passage	Develop design with CPW and USACE for permitting.
Limit lighting on the frontage road and at wildlife crossings	Directional light at Hidden Valley bridge. No permanent lighting on the frontage road.
Coordinate between the two projects to enhance connectivity	Ongoing
Need project specific and small species data not included in the recent I-70 inventory	Add to CSS inventory on website

Twin Tunnels and Frontage Road
Greenway Issue Task Force

Purpose
Issues associated with the Clear Creek Greenway were raised during the project development phase of the Frontage Road Project. The Greenway Issue Task Force was convened to identify and resolve issues associated with the Greenway and the Twin Tunnels and Frontage Road projects.

Meetings
The Greenway Issues team met on November 22, 2011 to discuss concerns with the projects and greenway. The meeting included:

- Twin Tunnels EA and Frontage Road Project Overview
- Local Plan Review
  - Clear Creek County Greenway Plan
  - Idaho Springs Comprehensive Plan
  - Agreement about the trail alignment and design elements
- Issue Identification and Approach
  - Identify issues
  - Develop options to address issues
- Evaluate and document options

Participants
The following agency, consultant, and local representatives attended the meeting:

Ben Acimovic, CDOT
David Singer, CDOT
Janet Gerak, CDOT
Jim Bemelen, CDOT
Melinda Urban, FHWA
Kevin Wright, FHWA
Randy Jensen, FHWA
Stephanie Gibson, FHWA
Pat Noyes, Pat Noyes & Associates
Gina McAfee, Jacobs
Allan Brown, Atkins
Kevin Shanks, THK
Jason Longsdorf, Parsons Brinckerhoff
Craig Friesen, Baker
Hugh Osborne, National Park Service
Dave and Sharon Reid, property owners
Mary Jane Loevlie, resident
Linda Browning, property owner
Tim Mauck, CC County Commissioner
Larry and Gail Lancaster, residents
Bill Coffin, resident
Pete Helseth, CC County greenway manger
Marjorie Bell, property owner
John Rice, land/business owner
Bert Weaver, CC County

Issues Identified
1. City wants to install water, power, and sewer infrastructure with the frontage road construction
2. Potential impacts/overlaps with the 200 foot high power line utility easement?
3. Property and recreation access (formal and informal)
4. Potential impacts to the historic power plant foundation near gravel road section may be impacted

5. Confirm needed that the Lancaster bridge will be preserved in place (or returned if it needs to be moved during construction) throughout all the construction projects and detour to maintain its functionality, visibility, and character.
6. Clarification whether CR314 is ultimately intended to be a county road or a frontage road.
7. County plans prefer 10 foot trail for the greenway
8. Storm drainage details should be designed not to negatively impact the bike trail with undercutting drainage or overflow sheeting/freezing.
9. IGA requested to confirm the maintenance agreements

Twin Tunnels and Frontage Road
Section 106 Consulting Parties/Historic Issue Task Force

Purpose
The purpose of the Section 106 Consulting Parties/Historic Issue Task Force is to ensure that the Twin Tunnels and I-70 Frontage Road projects fulfill the commitments of the *I-70 Mountain Corridor Section 106 Programmatic Agreement* (September 2008), which outlines how Section 106 compliance will be completed for projects in the I-70 Mountain Corridor.

Meetings
The Section 106 Consulting Parties met on September 16, 2011 and February 16, 2012.

- The purpose of the initial meeting was to introduce the Section 106 consulting parties to the Twin Tunnels project and process and to review Section 106 compliance and pertinent stipulations of the I-70 Mountain Corridor Section 106 Programmatic Agreement (PA). Participants also reviewed, provided input to, and endorsed the Area of Potential Effect for the Twin Tunnels and I-70 Frontage Road projects.

- The purpose of the second meeting was to advance the Section 106 process for the Twin Tunnels andI-70 Frontage Road projects by reviewing the Section 106 compliance process, discussing the eligibility and effects determinations under National Register of Historic Places (NRHP) criteria, discussing other issues of local importance, and brainstorming potential mitigation options for adverse effects. Participants agreed with the eligibility and effects determinations as defined by the Section 106 process and discussed treatment of resources of local importance that do not meet NRHP criteria for significance and/or integrity.

Participants
The following participated in the Section 106 Section 106 Consulting Parties/Historic Issue Task Force:

- Ben Acimovic, CDOT
- Marjorie Bell, Historical Society of Idaho Springs
- Stephen Bell, Property Owner
- Jim Bemelen, CDOT
- Bob Bowland, Historical Society of Idaho Springs
- Tom Breslin, Clear Creek
- Ashley Bushey, CDOT EPB
- Dan Corson, Colorado SHPO
- Mary Keith Floyd, Michael Baker
- Janet Gerak, CDOT
- Stephanie Gibson, FHWA
- Dan Jepson, CDOT EPB
- Jason Longsdorf, PB
- Mary Jane Loevlie, Idaho Springs
- Bill Luther, Clear Creek County
- Tim Mauck, Clear Creek County
- Gina McAfee, Jacobs
- Laura Meyer, Jacobs
- Jack Morgan, Idaho Springs Mayor
- Kevin O'Malley, Clear Creek County
- Amy Pallante, Colorado SHPO
- Lisa Schoch, CDOT EPB
- Kevin Shanks, THK
- David Singer, CDOT
- JoAnn Sorensen, Clear Creek County
- Sue Struthers, USFS
- Melinda Urban, FHWA
- Mary Jo Vobejda, CH2M HILL
- Kevin Wright, FHWA
- Mandy Whorton, CH2M HILL

Section 106 Progress and Issues

The following describes the progress of the Section 106 process for the Twin Tunnels and I-70 Frontage Road projects.

Initiate the Section 106 process. This step, which involves inviting consulting parties to participate in the process and identifying the scope of the undertaking (the APE), has been completed.

Identify historic properties. This step has been completed. CDOT (through its consultant) has conducted field survey of the APE and identified properties that meet National Register of Historic Places (NRHP) eligibility criteria. Only a few properties in the Area of Potential Effects met these criteria, although a number of properties that do not meet the NRHP criteria are considered important local resources that are meaningful to the community.

Identify effects to NRHP eligible or listed properties. There are three types of effects: Adverse Effects, No Adverse Effects, and No Historic Properties Affected. Adverse Effects require resolution (next step). This step has been completed. One Adverse Effect has been identified for the Twin Tunnels project (the Twin Tunnels themselves, which will be modified as a result of the Proposed Action). Other resources can be avoided, including those of local significance.

Resolve Adverse Effects. This step involves determining and committing to appropriate mitigation measures and is ongoing. The group discussed the following mitigation options and ideas:

- Design of the new tunnel portal – at least one option ought to pay homage to the historical Art Deco style.
- Salvage of portions of the portal for use in interpretive displays or for another purpose.
- Game check area provides opportunity for interpretive display.
- Interpretation of locally important resources
- Consideration of an interpretive plan, either County or Corridor wide
- Providing access to historic sites during construction

CDOT is taking the information provided to draft a Memorandum of Agreement (a legal document committing to mitigation) and is considering the need and value of another face-to-face meeting with consulting parties.

Attachment 3: Presentation

Twin Tunnels EA

Project Leadership Team and

Technical Team

March 15, 2012

Consolidated project schedules

- Ben’s speaking point

ITF summaries

- ALIVE
- SWEEP
- Greenway
- Section 106 PA

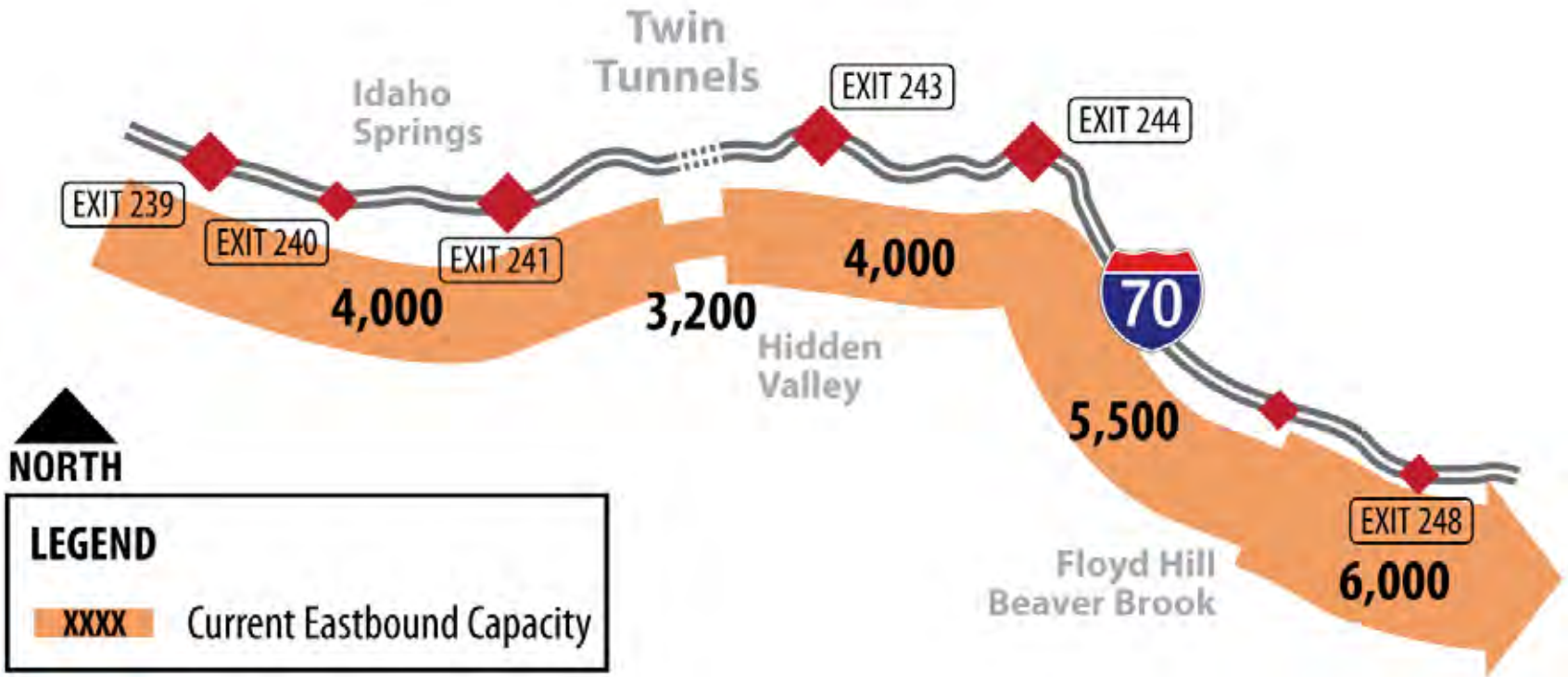
Objectives of today's traffic presentation

- Review existing and future traffic demand
- Assess options to handle demand
- Understand managed lanes
- Learn how decision to implement will be made
- Respond to questions and concerns
- Discuss effects to be included in EA

Discussion topics

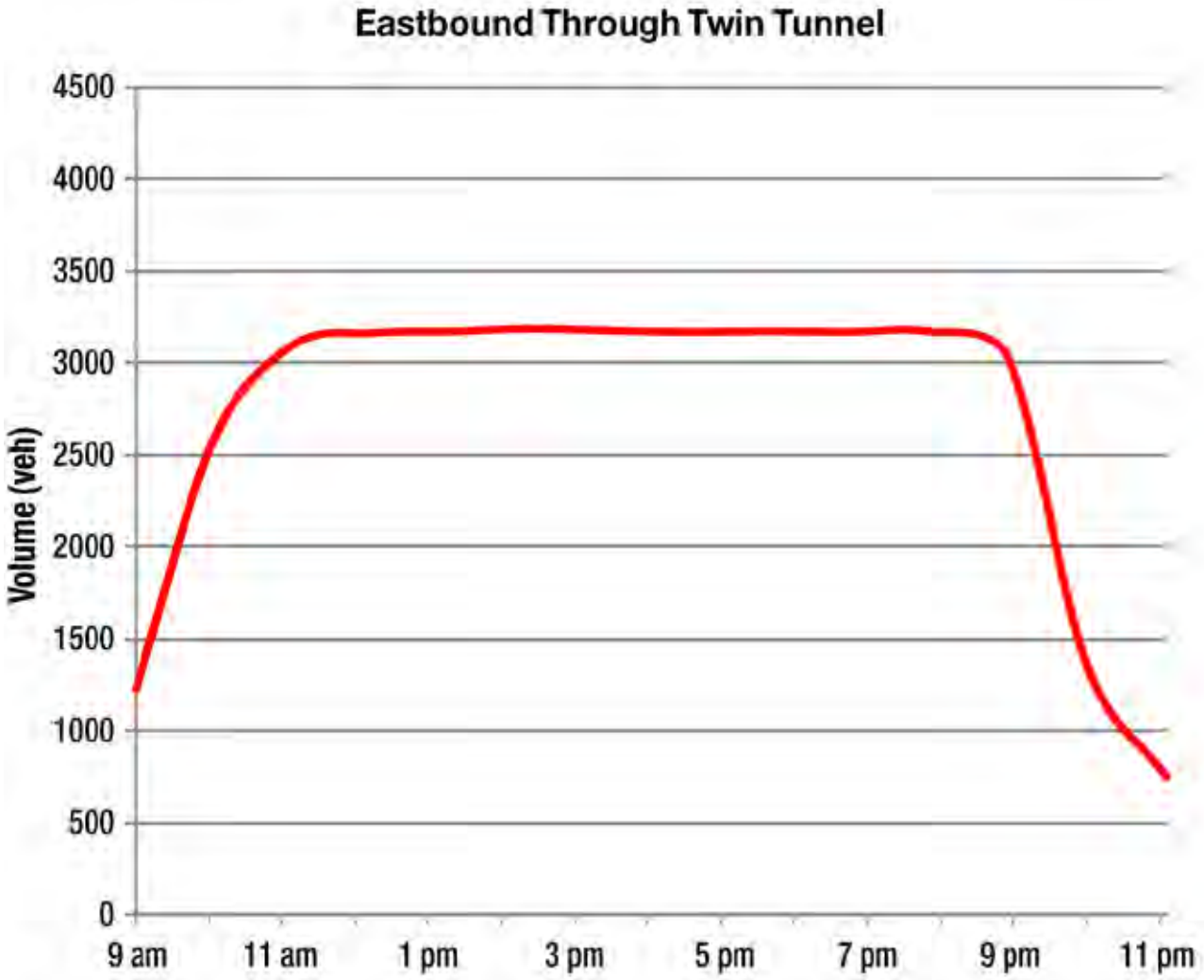
- **Existing conditions**
- Existing and future traffic demand
- Performance of General Purpose Lane option
- Performance of Managed Lane option
- Managed lanes overview and proposed application
- Decision to implement
- Questions, concerns, discussion of effects

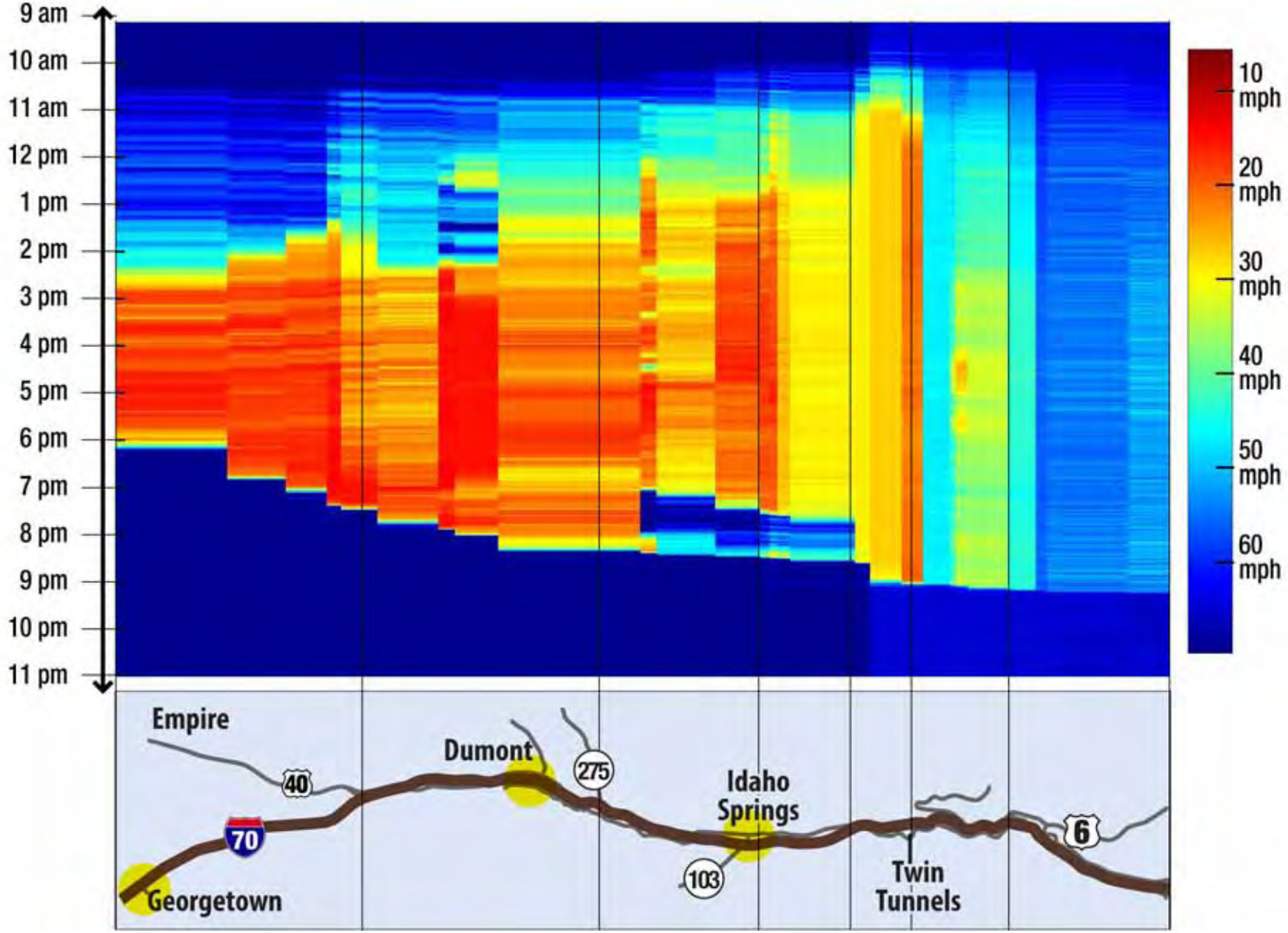
Existing capacity



Existing Volumes

- Tunnel capacity is 3,200 vph, but demand is much greater
- Result = queue extending west




9 am
10 am
11 am
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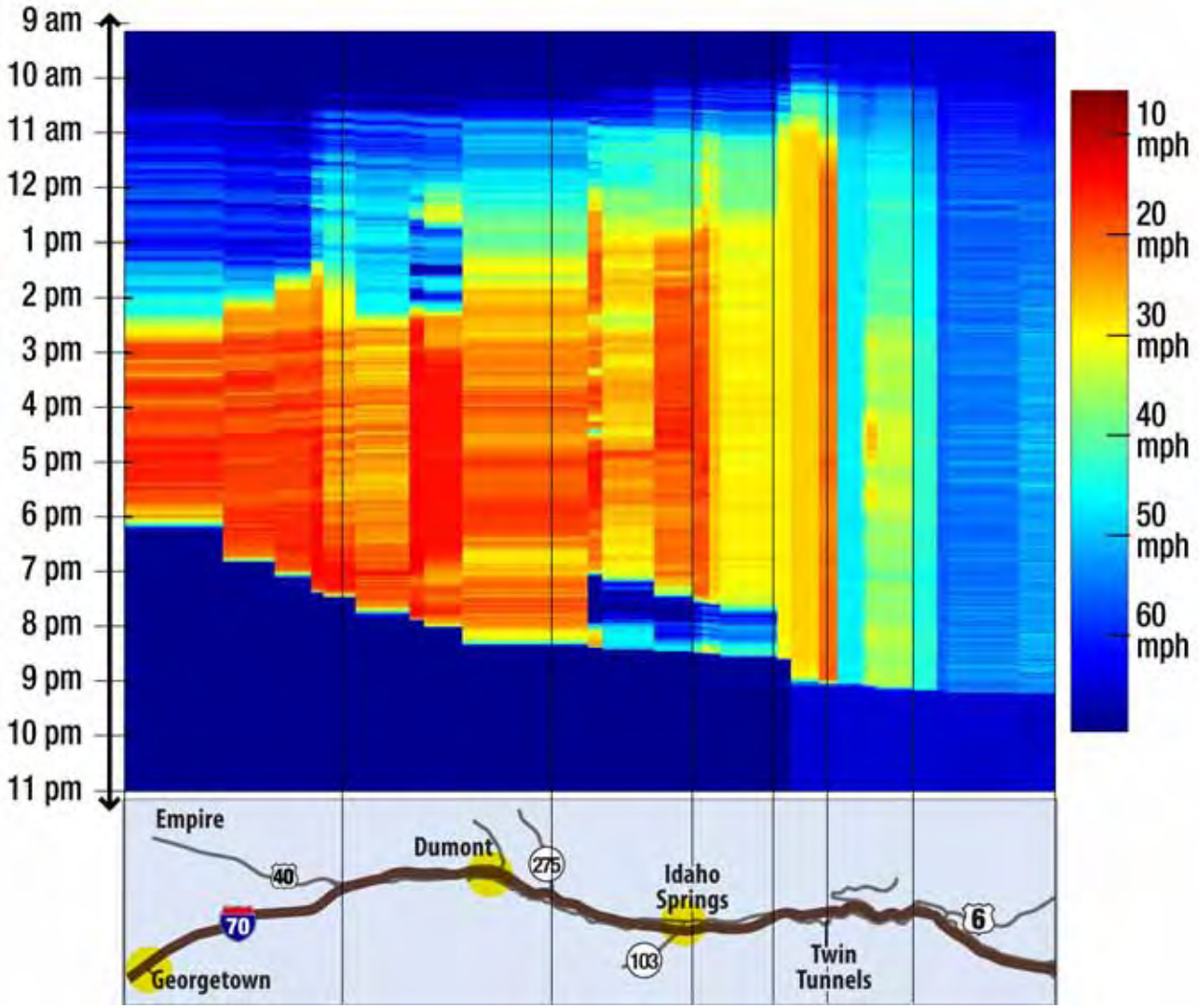
2 pm
3 pm
4 pm
5 pm
6 pm
7 pm
8 pm
9 pm
10 pm
11 pm
10 mph
20 mph
30 mph
40 mph
50 mph
60 mph
Empire
Dumont
Idaho Springs
Georgetown
Twin Tunnels
40
70
275
103
6

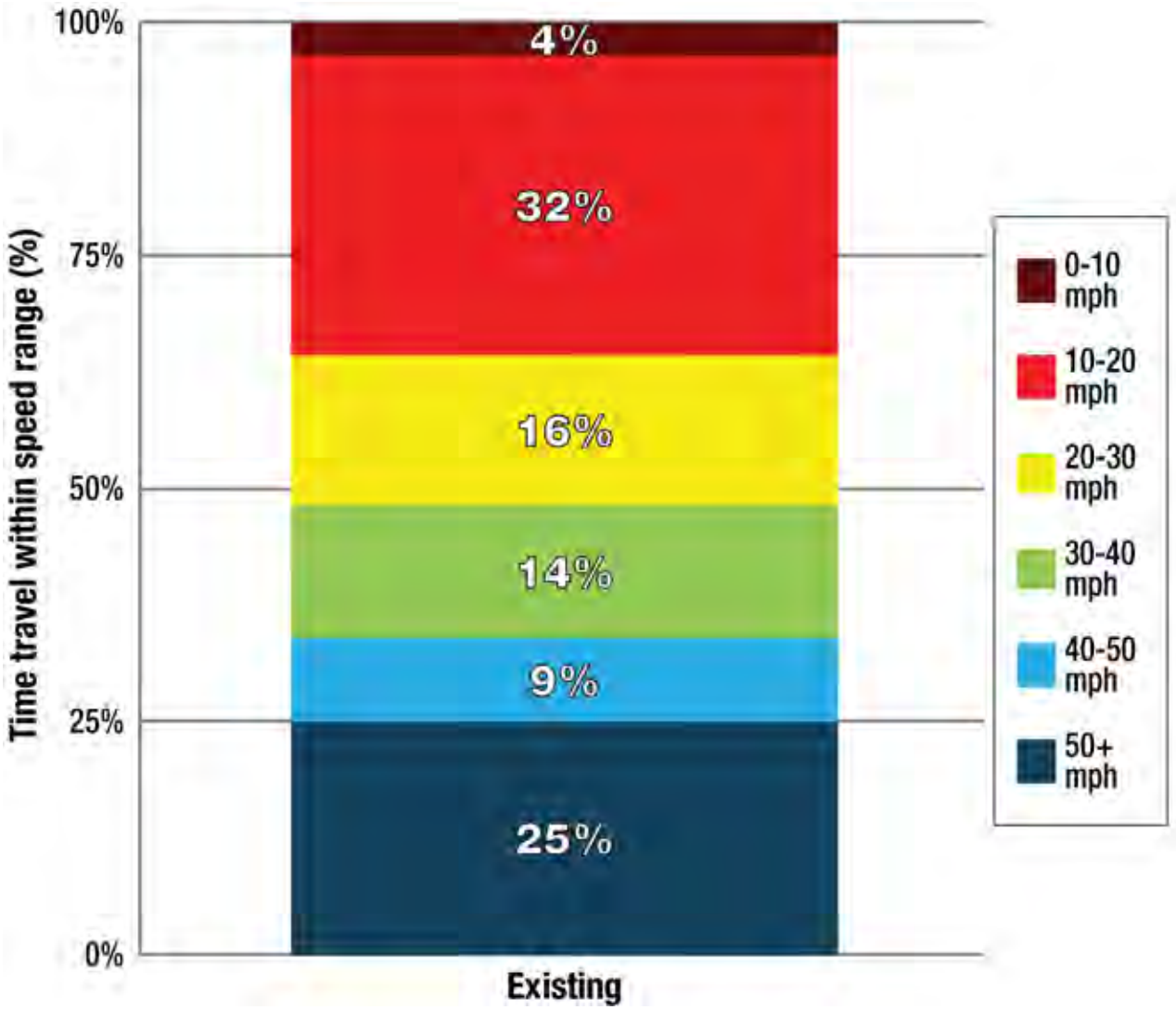
Existing speeds

- Queue extends beyond Georgetown for 3+ hours
- Congestion is relieved by 9 pm

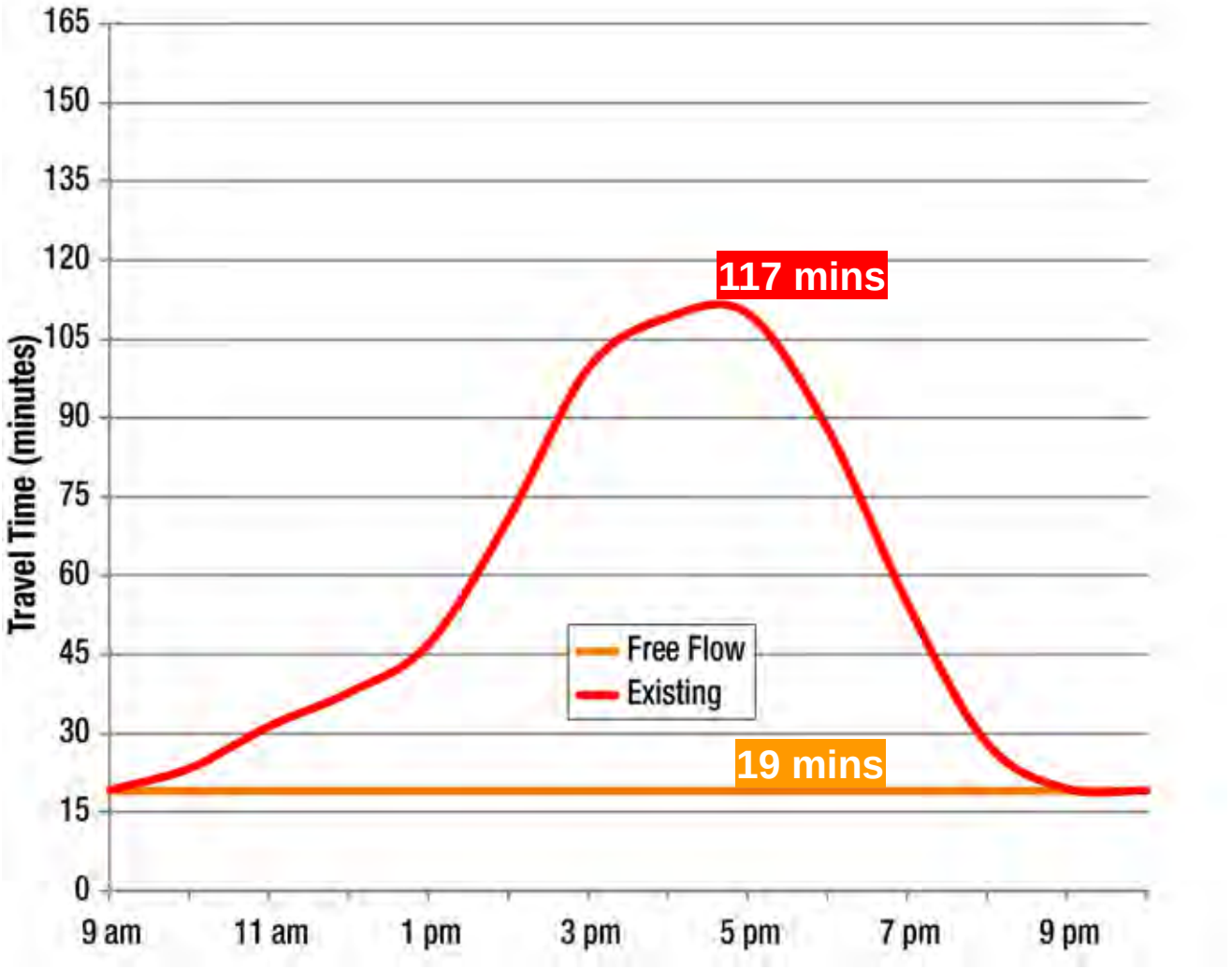


Existing speeds

- Vehicles travel at 50+ mph for 25% of time
- Vehicles are nearly stopped for 36% of time



Existing travel times

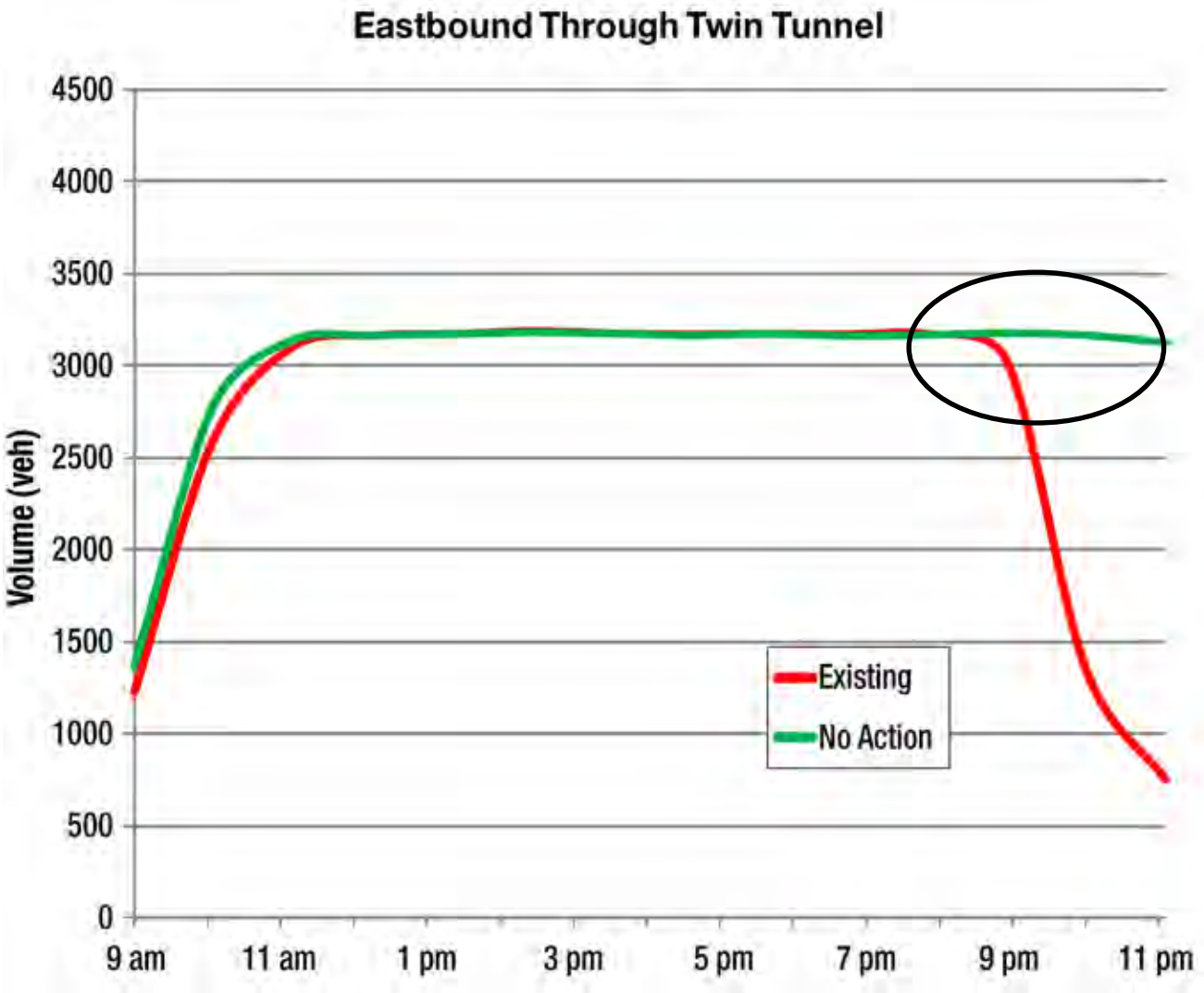


Discussion topics

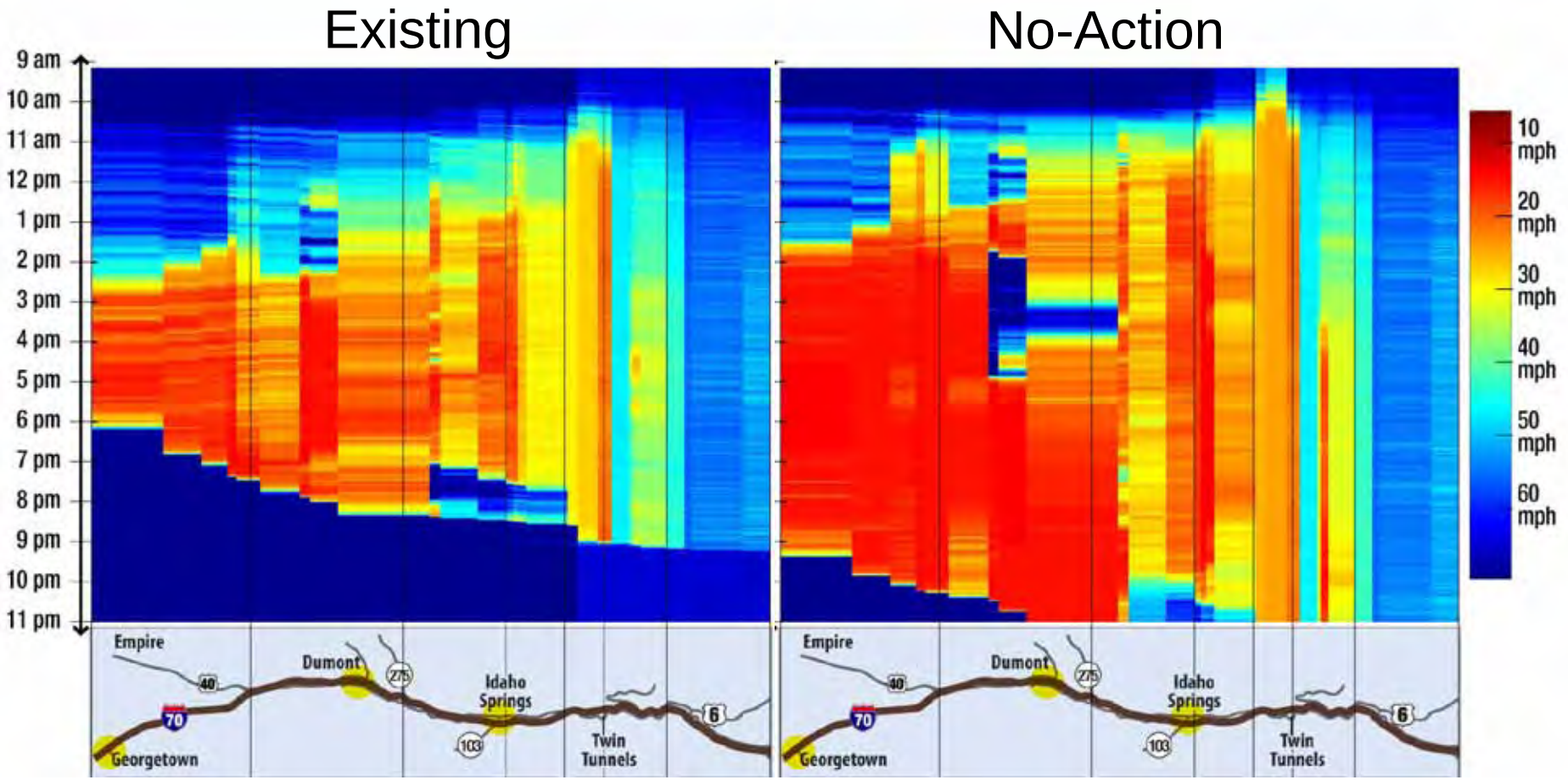
- Existing conditions
- **Existing and future traffic demand**
- Performance of General Purpose Lane option
- Performance of Managed Lane option
- Managed lanes overview and proposed application
- Decision to implement
- Questions, concerns, discussion of effects

2035 No-Action volumes

- 2035 volumes 22% higher than 2010 volumes (PEIS growth rate)
- Tunnel operates at maximum capacity beyond 11 pm

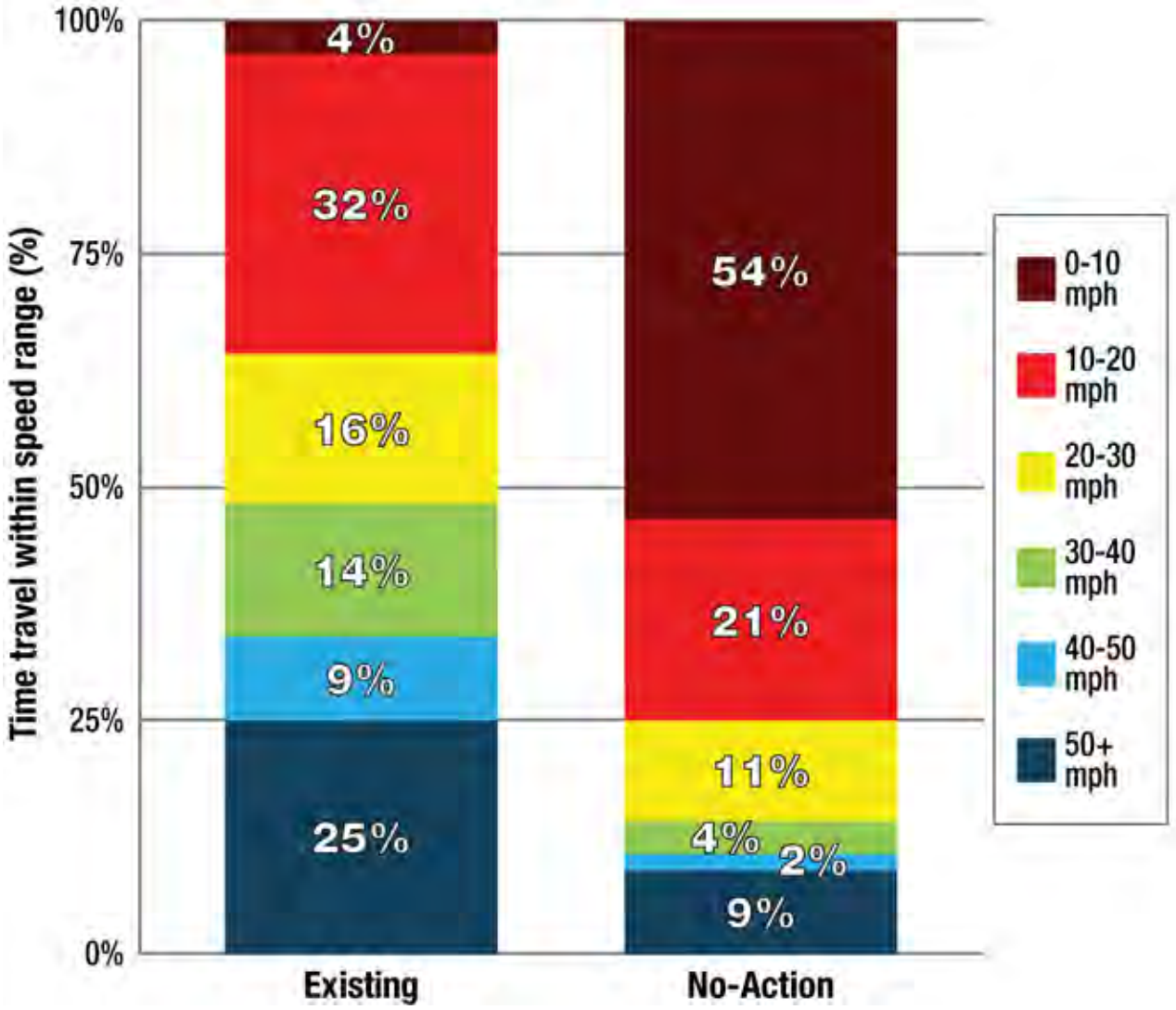


No-Action speeds

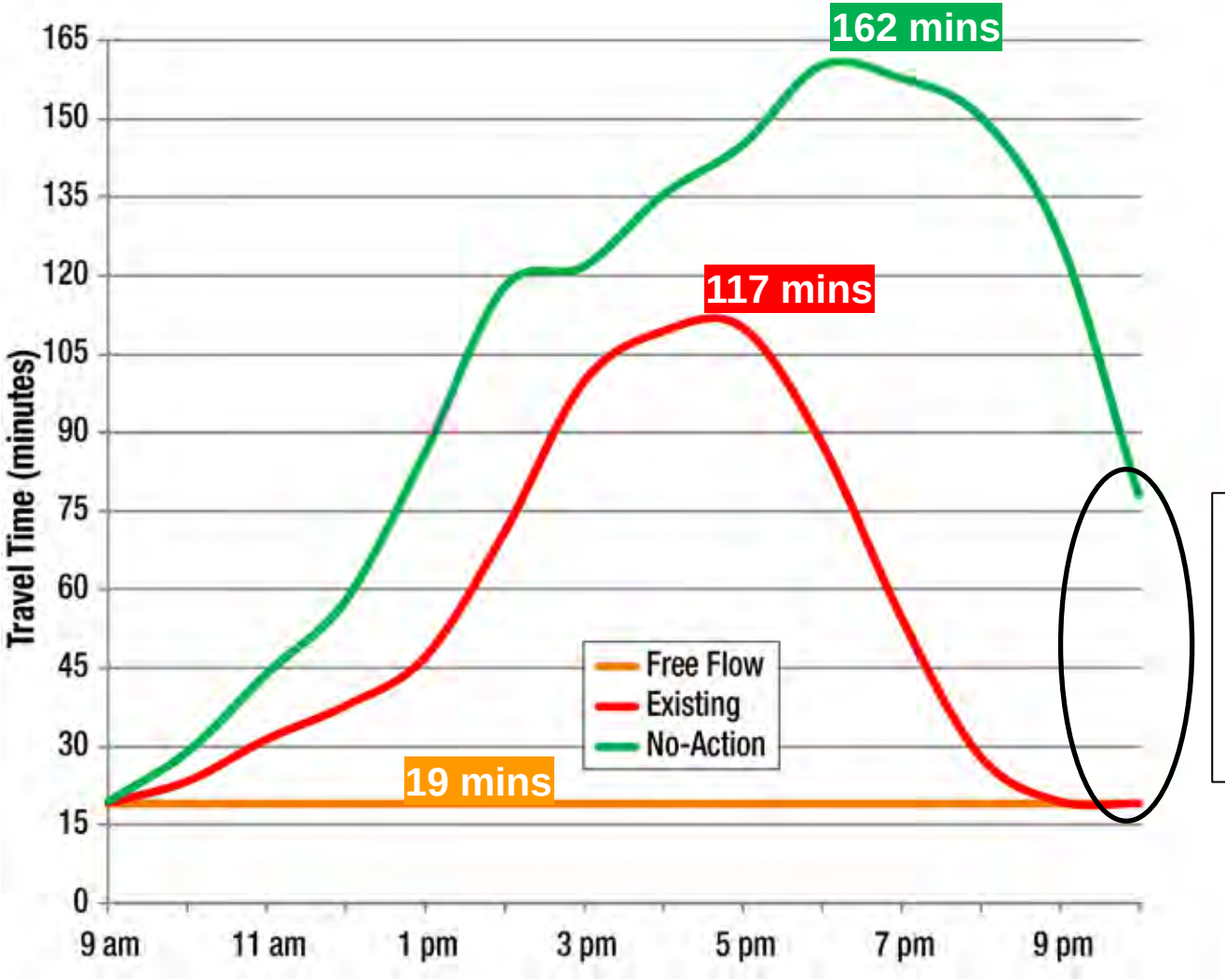


No-Action speeds

- Vehicles travel at 50+ mph only 9% of time
- Vehicles will be nearly stopped 75% of time



No-Action travel times

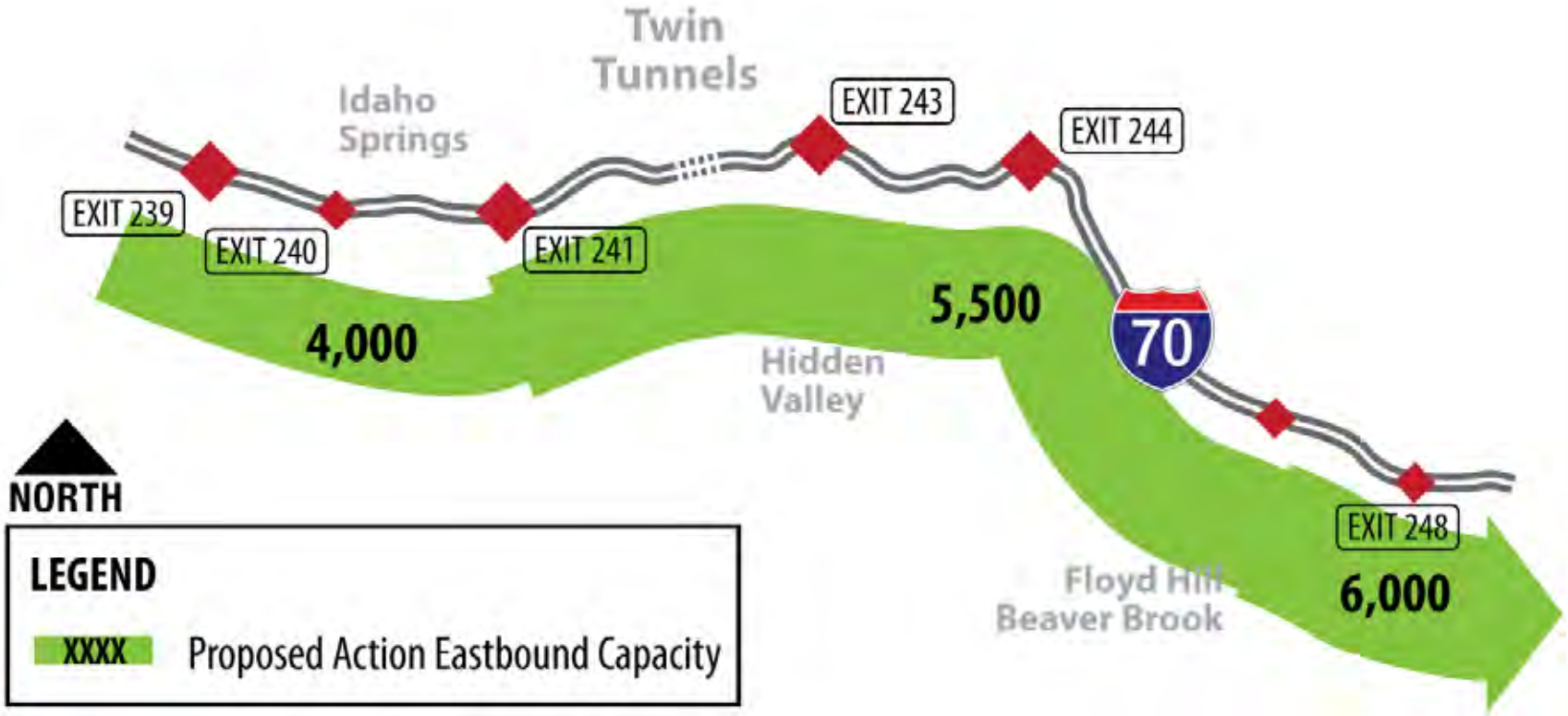


No-Action does not return to free flow by 11 pm

Discussion topics

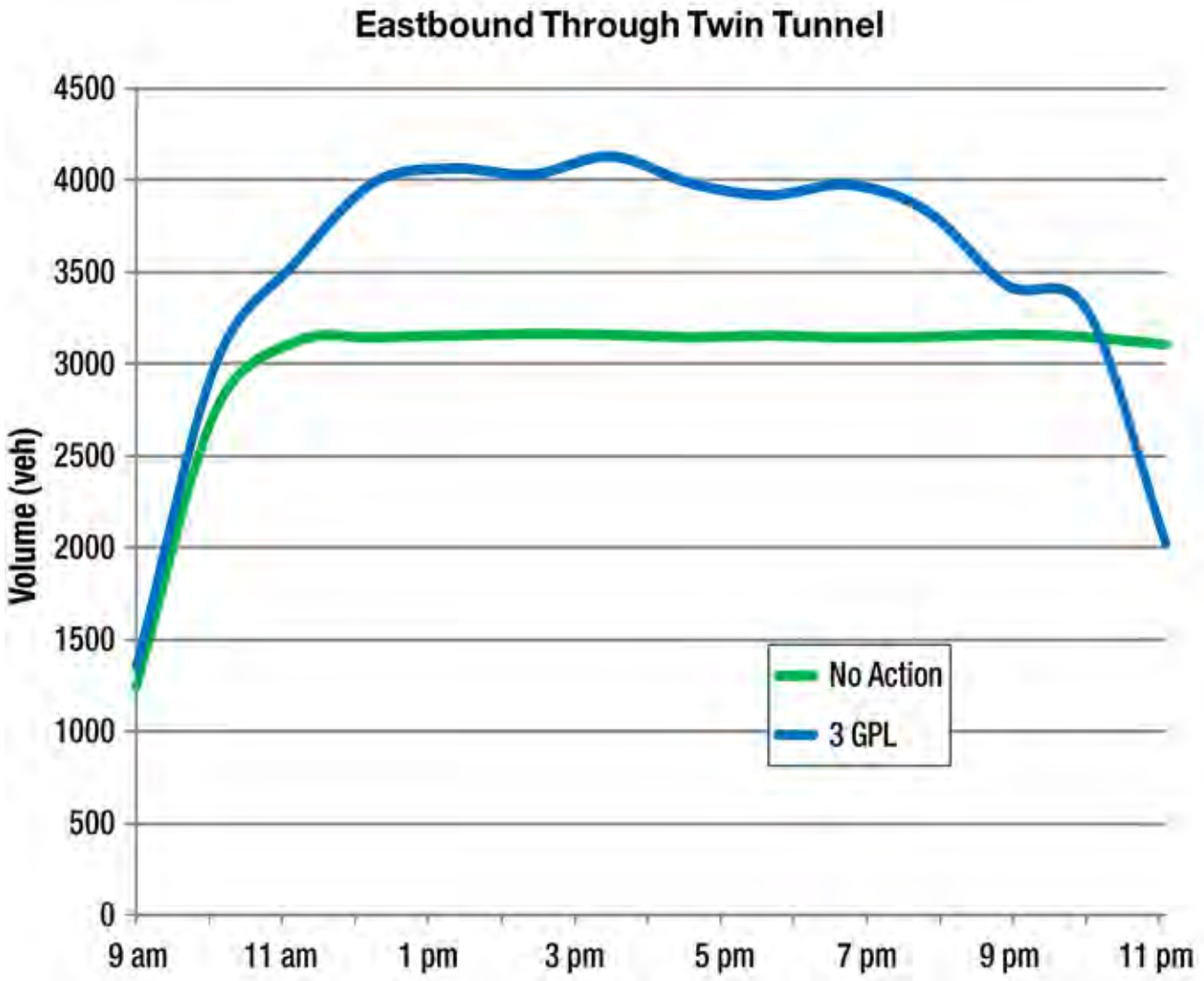
- Existing conditions
- Existing and future traffic demand
- **Performance of General Purpose Lane option**
- Performance of Managed Lane option
- Managed lanes overview and proposed application
- Decision to implement
- Questions, concerns, discussion of effects

Capacities with Proposed Action

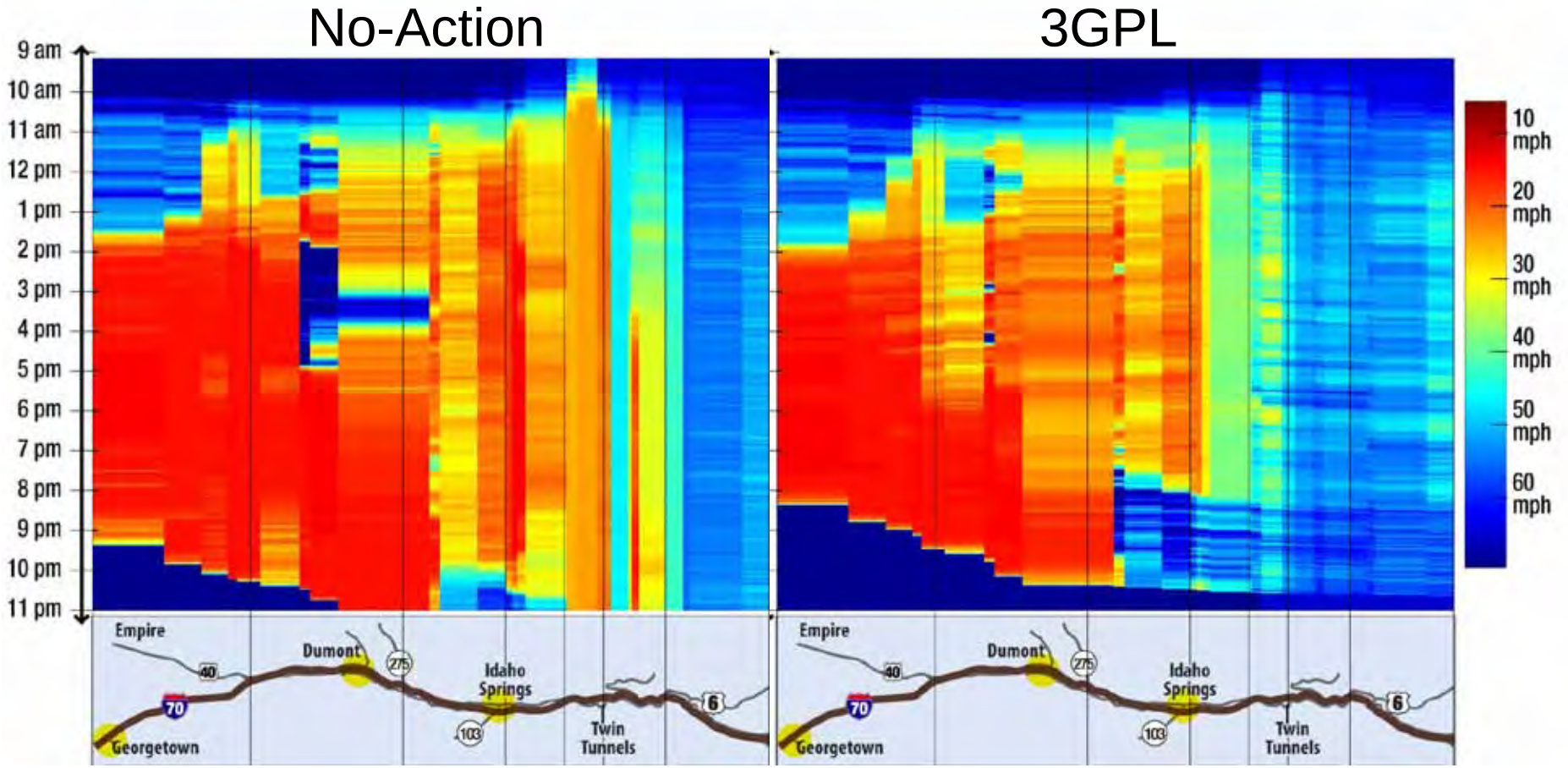


General Purpose Lane (3GPL) option volumes

- Widened tunnel is able to serve more upstream demand

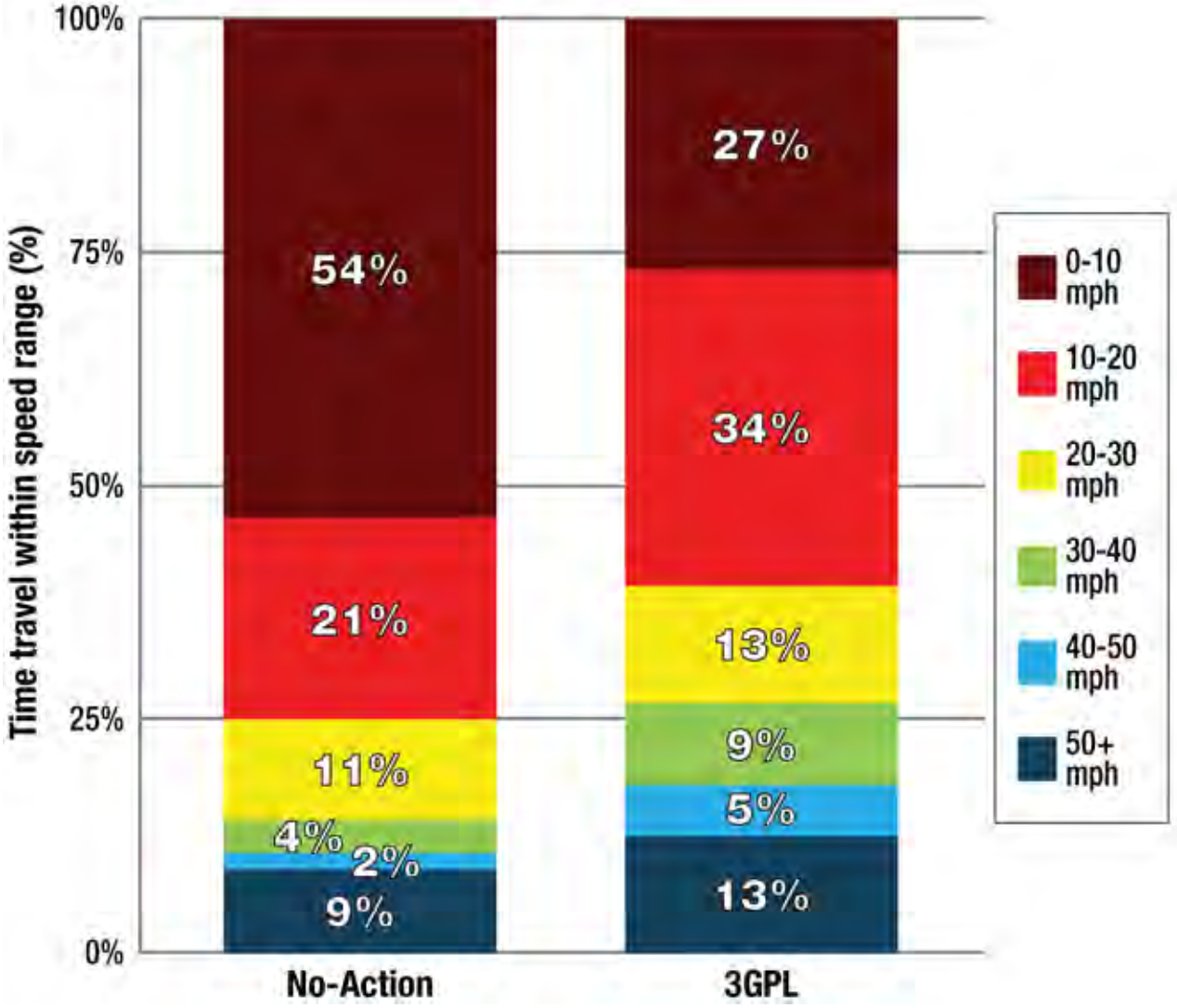


3GPL option speeds

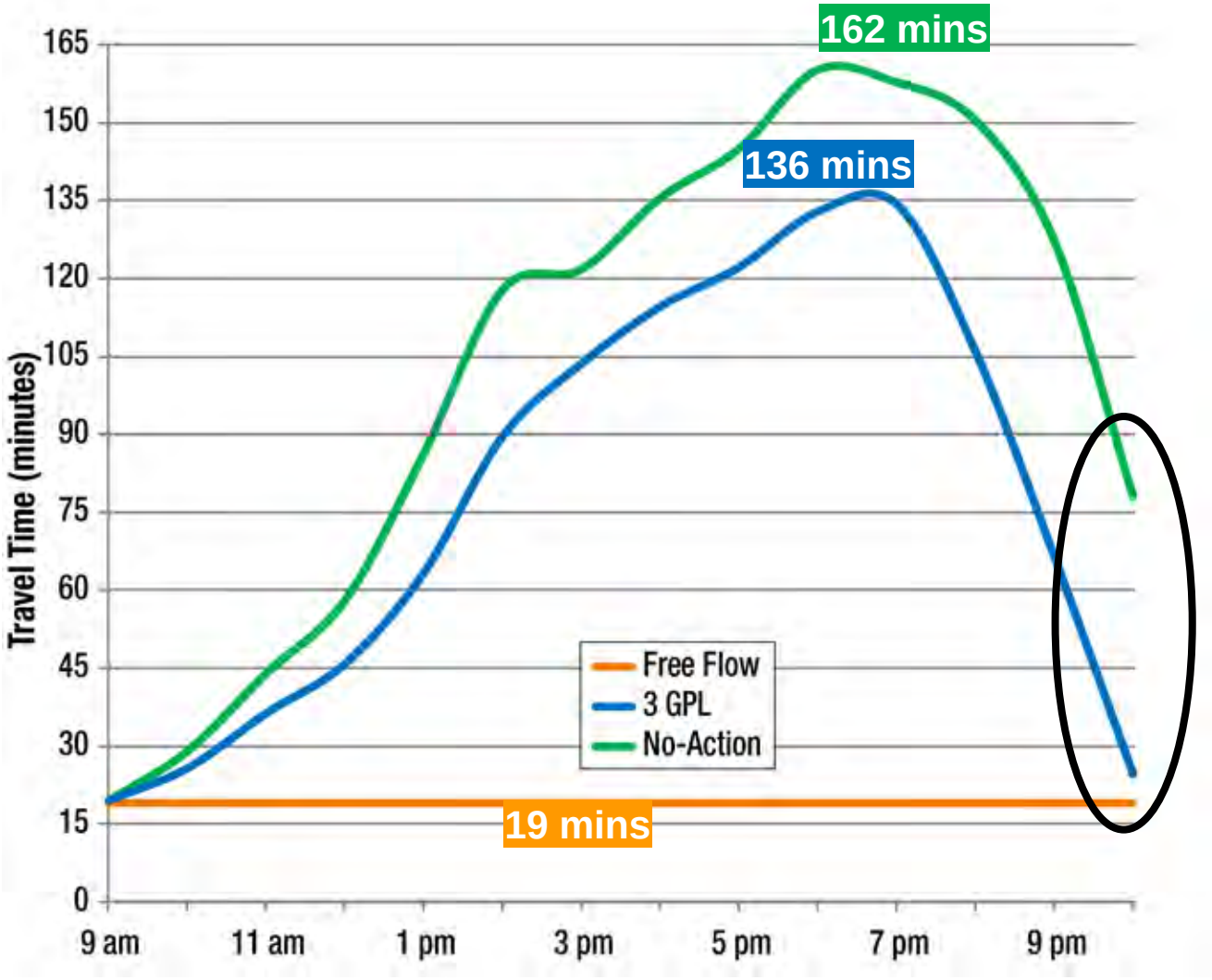


3GPL option speeds

- Vehicles will travel at 50+ mph 45% more
- Vehicles will be nearly stopped 19% less



3GPL option travel times



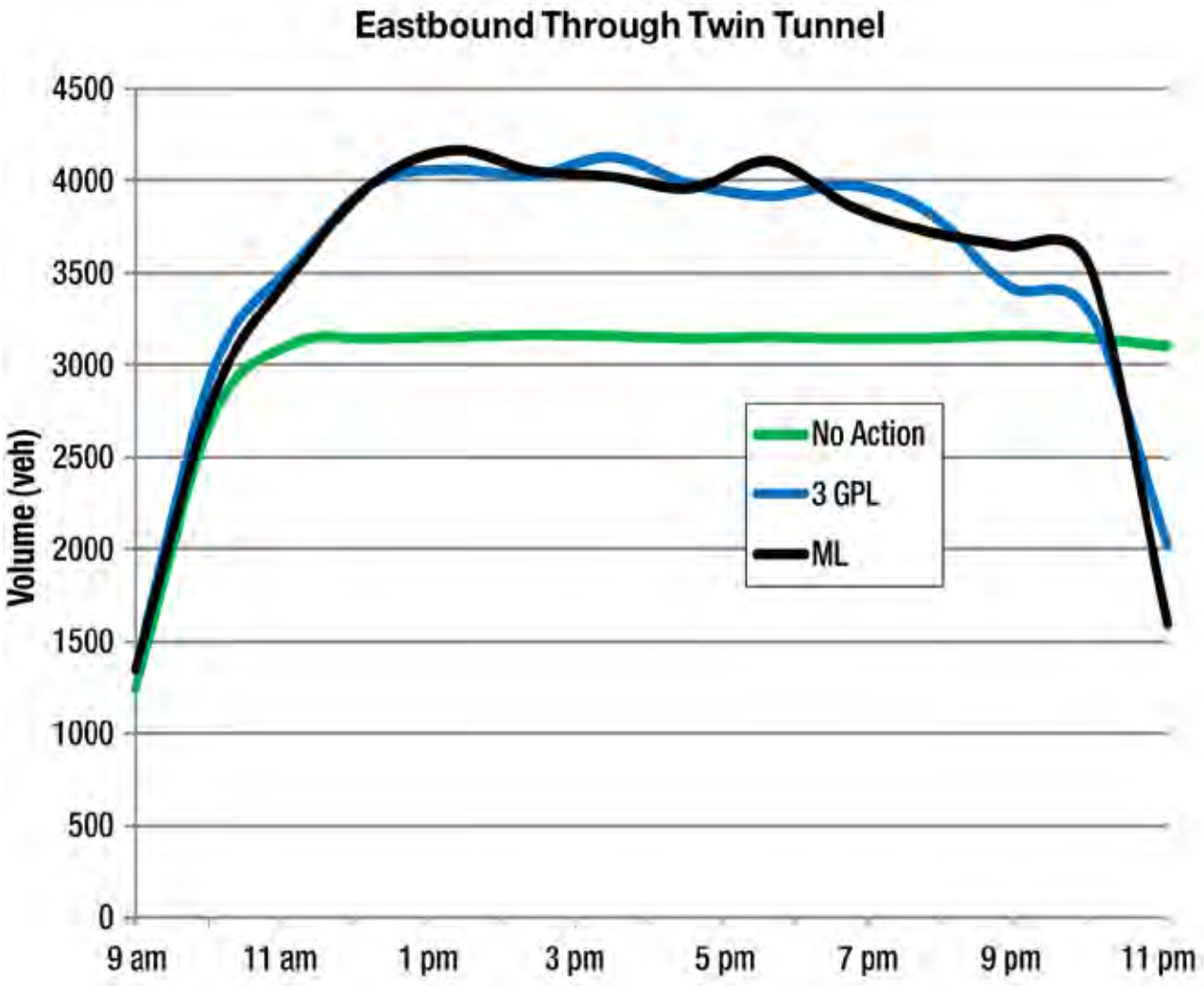
3GPL option almost back to free flow by 11 pm

Discussion topics

- Existing conditions
- Existing and future traffic demand
- Performance of General Purpose Lane option
- **Performance of Managed Lane option**
- Managed lanes overview and proposed application
- Decision to implement
- Questions, concerns, discussion of effects

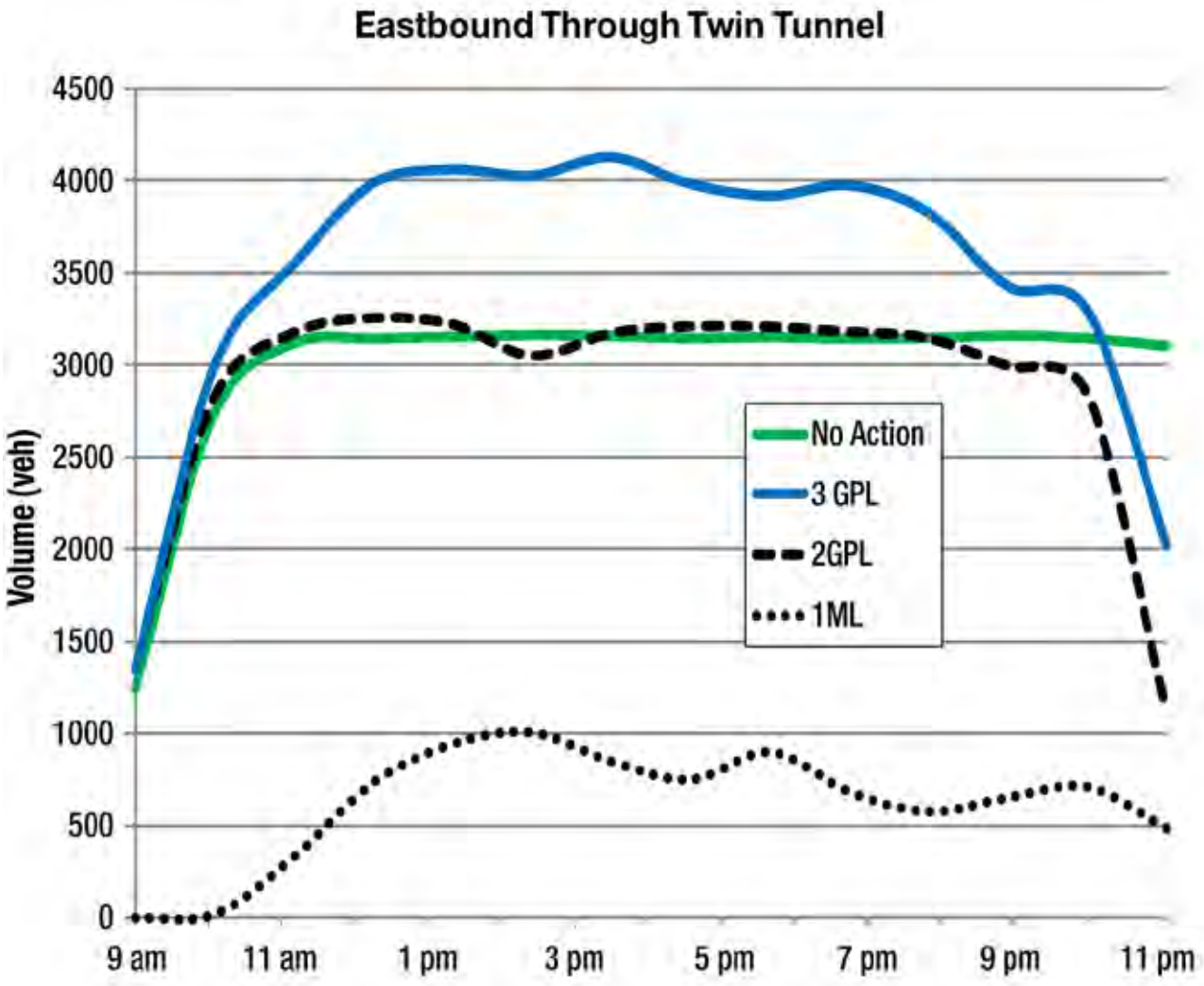
Managed Lane (ML) option volumes

- Overall capacity for 3GPL option and ML option the same

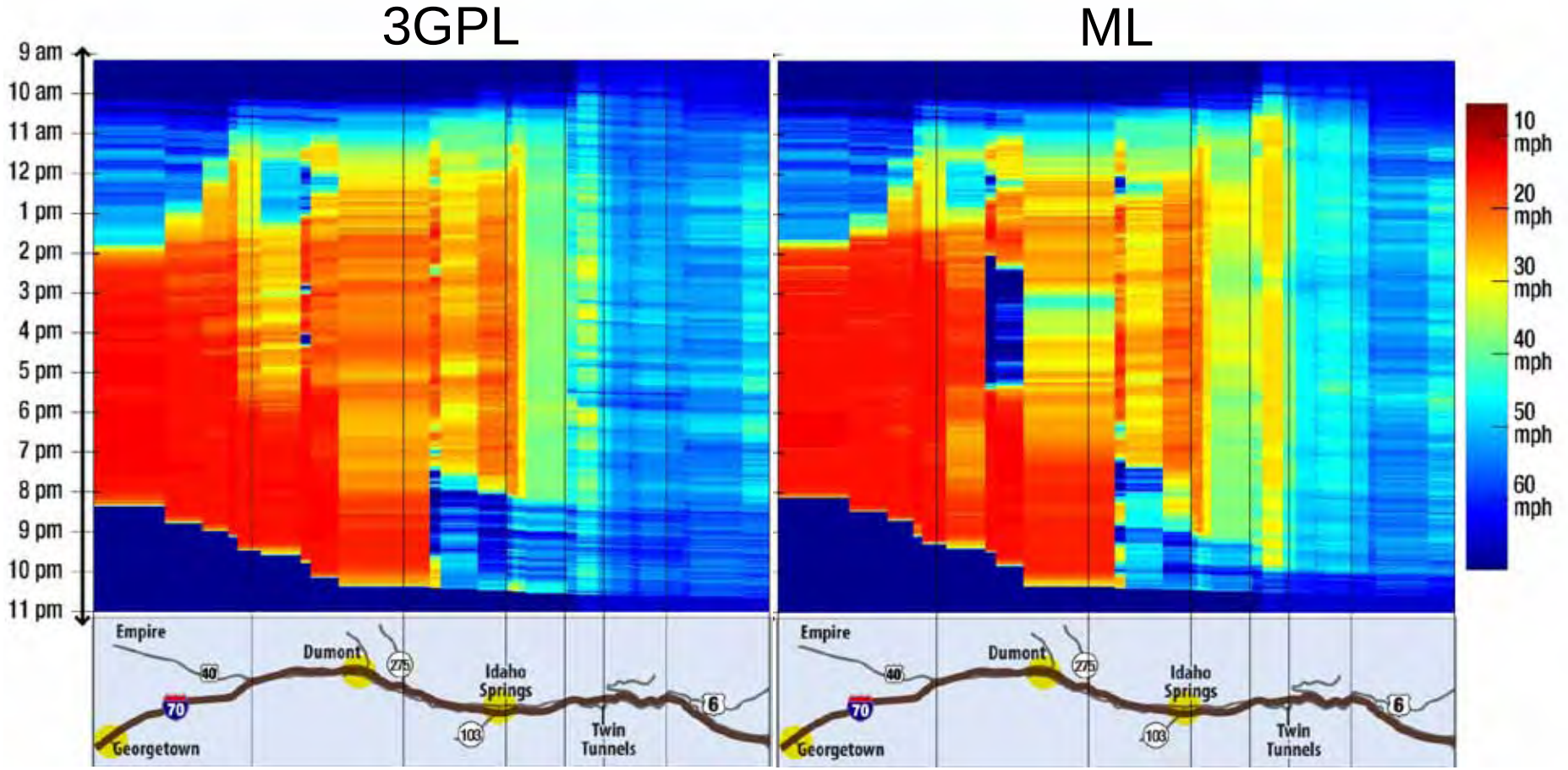


Managed Lane (ML) option volumes

- 1ML is managed so volume is relatively low
- 2GPL similar to No-Action

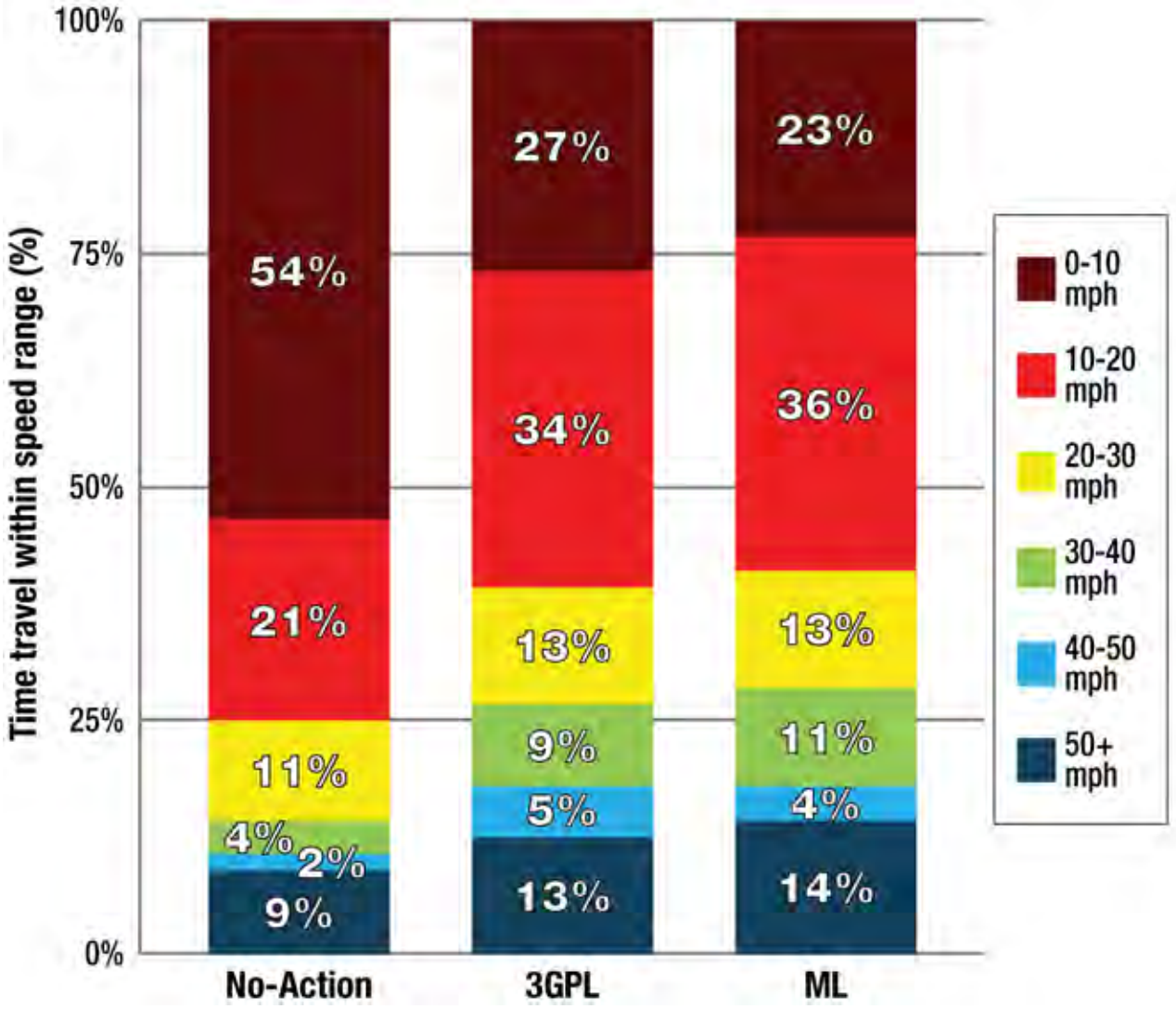


ML option speeds

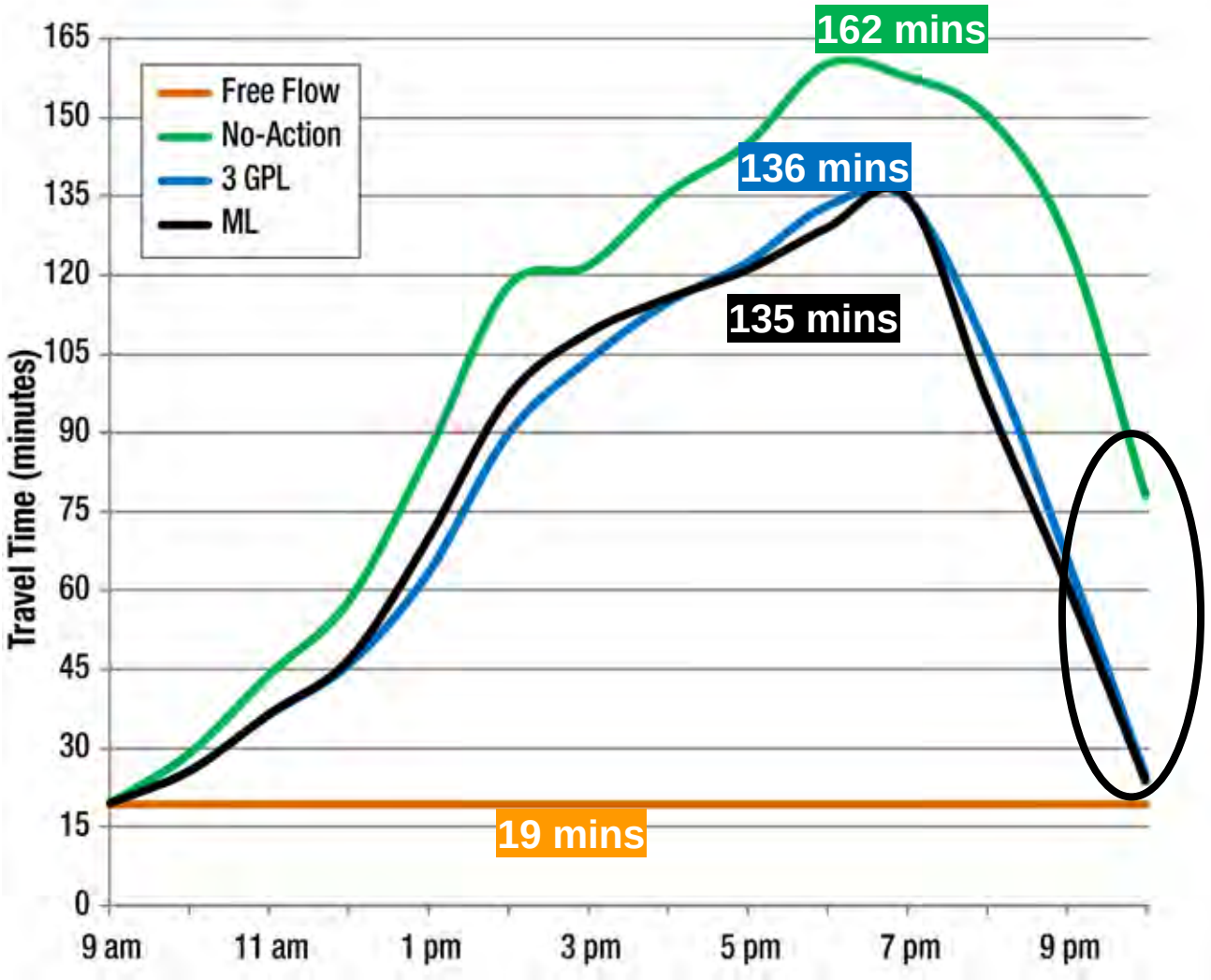


ML option speeds

- Both 3GPL and ML options better than No-Action
- Both options perform similarly

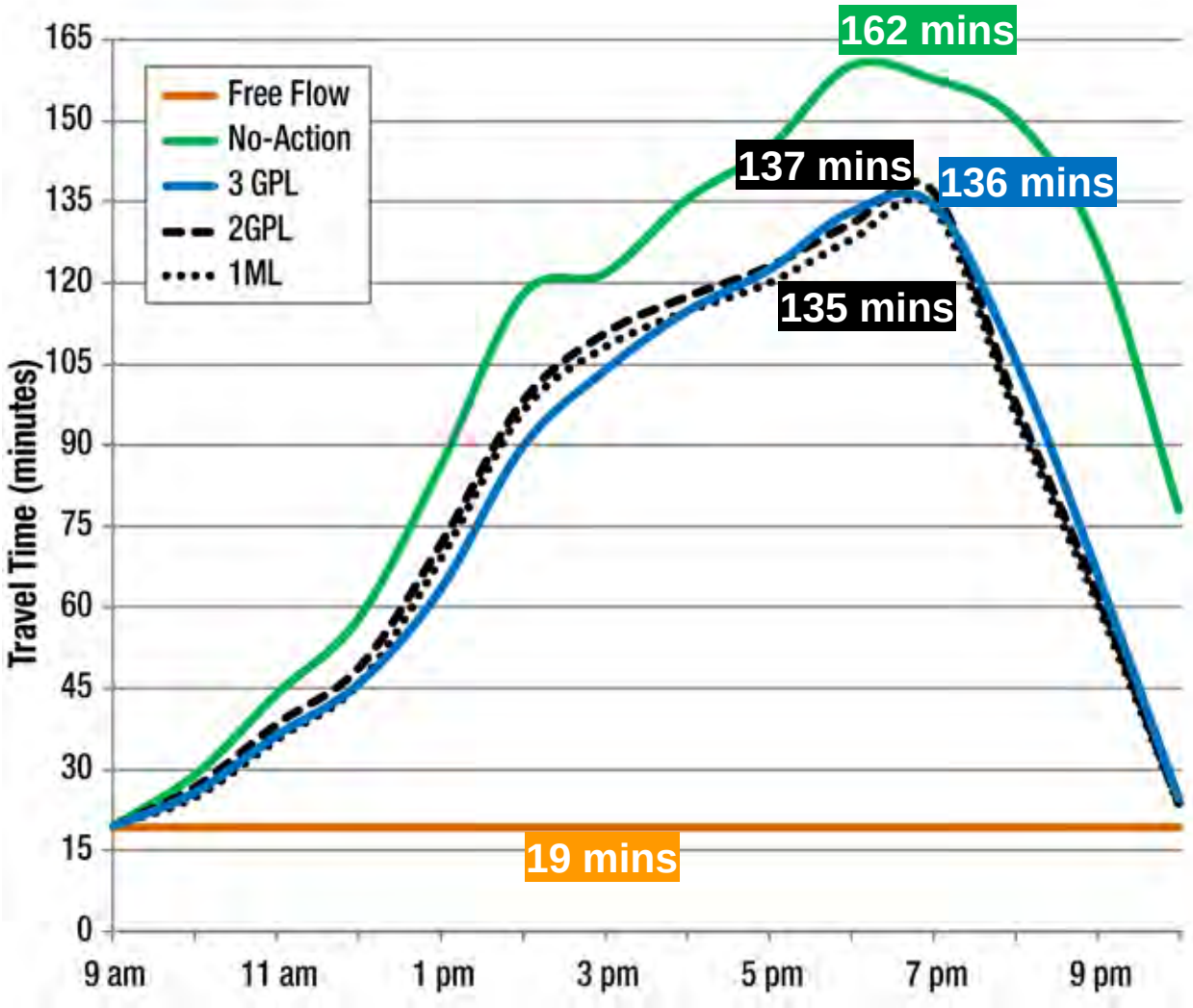


ML option travel times



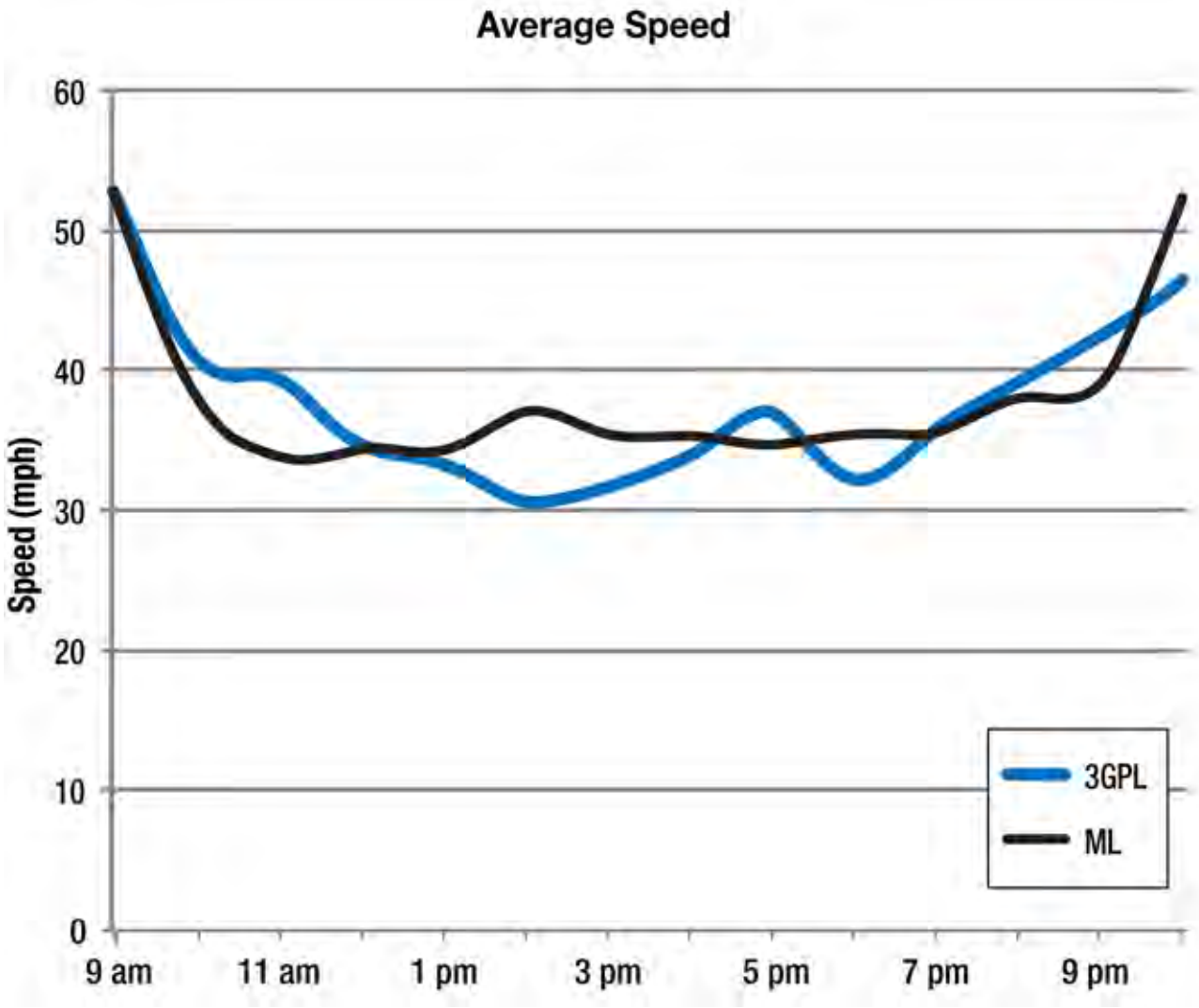
ML option almost back to free flow by 11 pm

ML option travel times



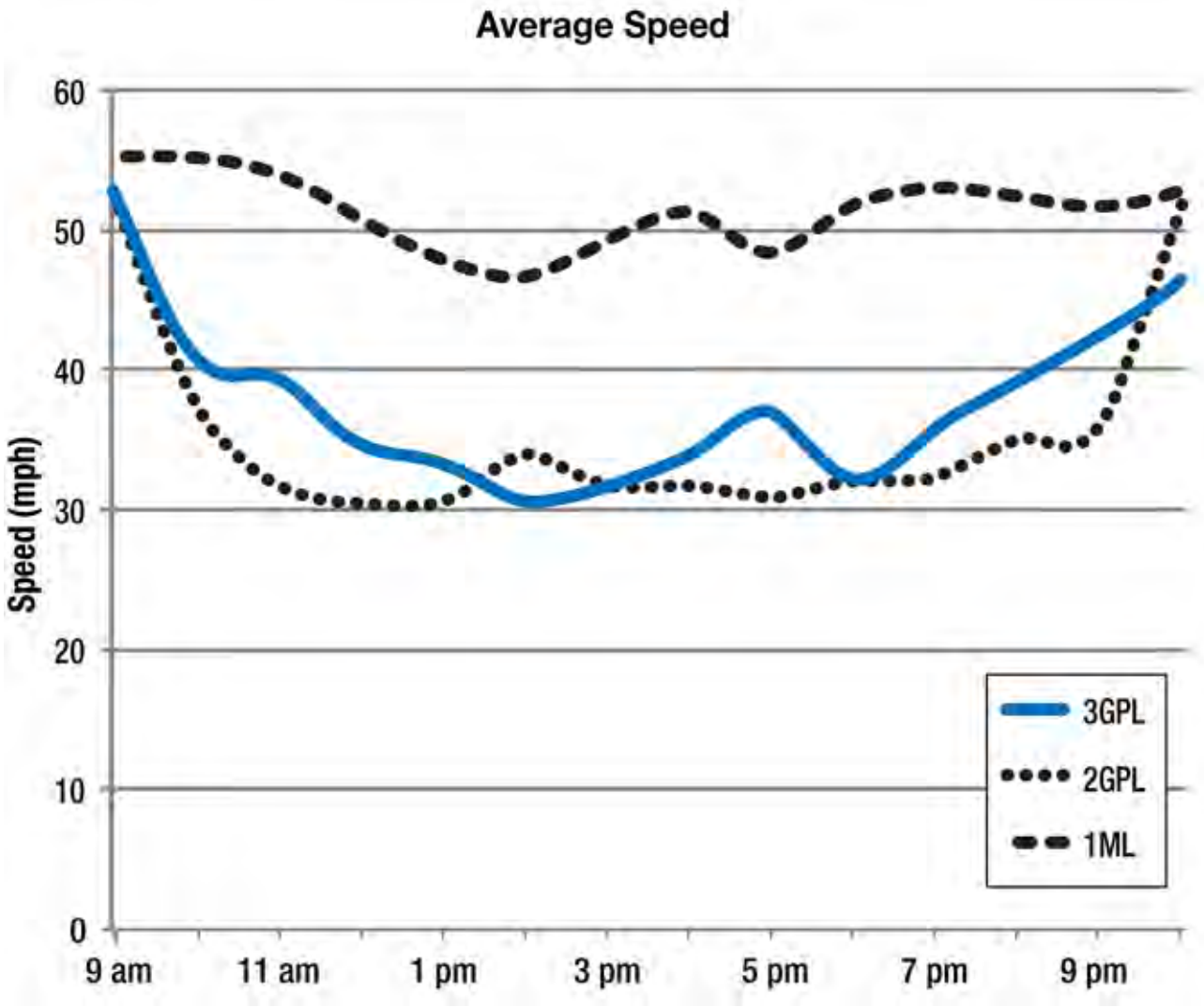
Speeds through project area

- Overall average speed for both options is similar



Speeds through project area

- 2GPL average travel speed is slower than 3GPL option
- 1ML average travel speed is managed to be above 45 mph



Mobility measures

- Volumes
  - 3GPL and ML options will serve about the same number of vehicles
  - Widened tunnel serves more upstream demand
- Speeds
  - 3GPL and ML options have similar overall speeds
  - 1ML is managed to operate at 45 mph or higher through project area
- Travel times
  - 3GPL and ML options will have about the same travel times
  - Vehicles using the 1ML will have slightly better travel times

Mobility measures

- Congestion
  - Overall intensity and duration of congestion for the 3GPL and ML options are similar
- Diversion/attraction of traffic
  - Both 3GPL and ML options reduce traffic on Frontage Road east of Idaho Springs due to mainline improvements
- Reliability
  - Travel speeds in 1ML can be managed to remain above 45 mph for the majority (>95%) of the time

Safety measures

- Existing: 86 crashes per year
- Under No-Action, approximately 100 crashes per year projected
- Under both 3GPL and ML, reduction in crashes to 65-80 per year
- Curve modification west of Hidden Valley to 55 mph: ~ 75% projected decrease in crashes at that location

Discussion topics

- Existing conditions
- Existing and future traffic demand
- Performance of general purpose lane option
- Performance of managed lane option
- **Managed lanes overview and proposed application**
- Decision to implement
- Questions, concerns, discussion of effects

What are the potential benefits of a managed lane?

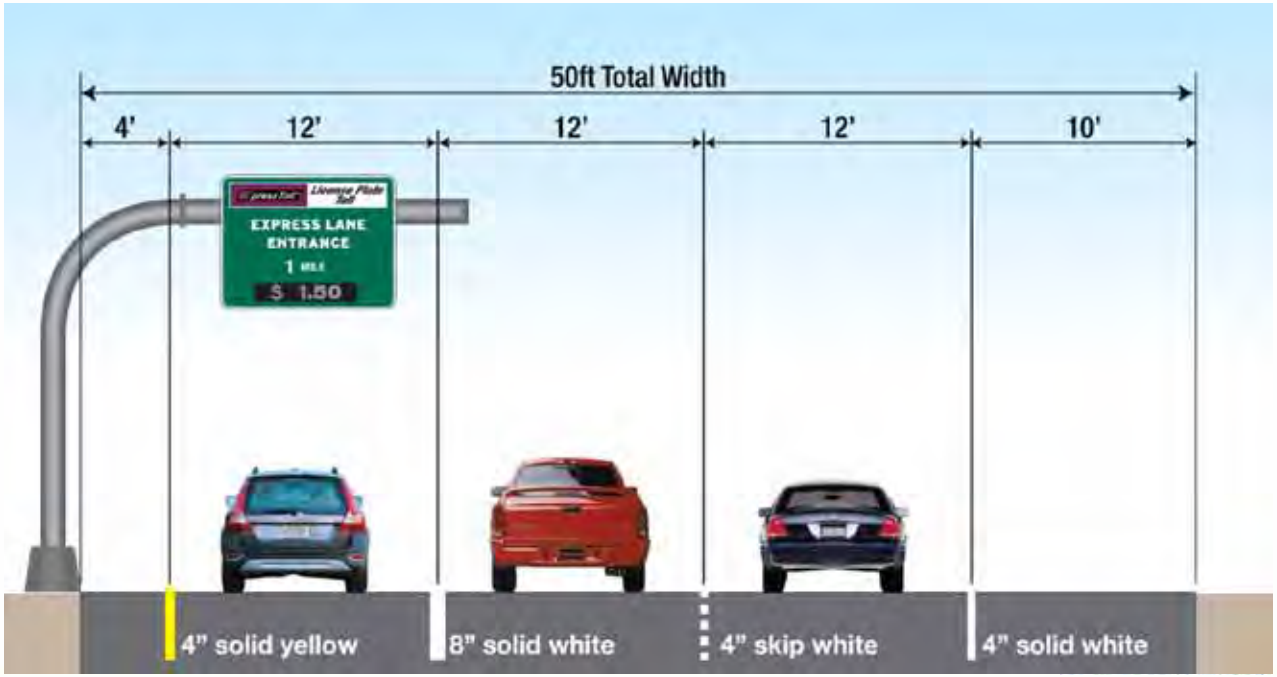
- Volumes managed to produce reliable trip time
- Provides choice to users
- Sustainable as traffic volumes grow
- Revenue potential for portion of O&M
- Higher transit ridership and vehicle occupancy
- Reliable travel time option for emergency vehicles
- Consistent with user pay philosophy (supported by environmental advocacy groups)

Twin Tunnels managed lane concept of operations

- Operational objective: reliable trip times
- Peak periods only; no charge off-peak
- Peak periods > 2,900 vph for at least 3 hours
  - In 2010: 28 Sundays, holidays, 14 Saturdays, no weekdays
  - In 2035: 43 Sundays, holidays, 28 Saturdays, 17 weekdays
- Envision all vehicles charged, except…
  - Emergency response vehicles exempted
  - Consider exemption for 20+ passenger buses
  - Truck surcharge
- Variable pricing

Twin Tunnels managed lane concept of operations

- License plate tolling; discount for transponders
- Law enforcement visual observation; supplemented by CCTV surveillance
- Physical infrastructure required



Twin Tunnels Environmental Assessment
Idaho Springs/Clear Creek County

Extent of managed lane

- Begins at East Idaho Springs off-ramp
- Ends 1,800’ west of US 6 exit ramp
- One tolling point at west portal

Preliminary pricing considerations

- Initial anticipated pricing (peak Sunday 2010)
  - Expected operation times 12:30 pm – 6:30 pm
  - Expected toll prices $1.00 – $1.25
- Initial estimates indicate revenue may be able to cover O&M costs but would not produce substantial revenue

Managed lane approval processes

- FHWA
- NEPA
- HPTE/FASTER legislation
- DRCOG

Next steps

- Refinement of technical analysis
- Presentation and mitigation of impacts at April PLT/TT
- FHWA approval
- RTP amendment
- EA documentation
- EA decision document

Questions on traffic analysis?

- Traffic demand
- GPL and ML performance
- General concept of managed lanes
- Specific managed lane installation
- Process
- Other

How will the decision about the operating concept be made?

- Both options will be fully evaluated in EA
- Will also take into consideration core values and other factors:
  - Safety
  - Mobility
  - Gateway
  - Tourism/community facilities
  - Emergency response
- FHWA and CDOT will consider the information presented in the EA in making their decision

Comments about the proposed scope of EA Analysis?

- Resources evaluated for effects from operational concept:
  - Transportation - Mobility and Safety
  - Air quality
  - Socioeconomic
  - Environmental Justice
  - Noise
  - Energy
  - Visual Resources

Comments about the proposed scope of EA Analysis?

- Resources not expected to be affected by operational concept
  - Terrestrial Wildlife
  - Aquatic Resources
  - Threatened or Endangered Species
  - Vegetation
  - Wetlands and other Waters of the US
  - Floodplains
  - Water Resources and Water Quality
  - Geology
  - Regulated Materials and Solid Waste
  - Land Use
  - Recreation Resources
  - Historic Properties
  - Paleontology

Public education/outreach concerns?

- Impacts of greatest concern?
- Effective strategies to inform travelers and local residents?
- Approvals?
- Other considerations?

Did we address all your questions?

Twin Tunnels EA

DOT
DEPARTMENT OF TRANSPORTATION

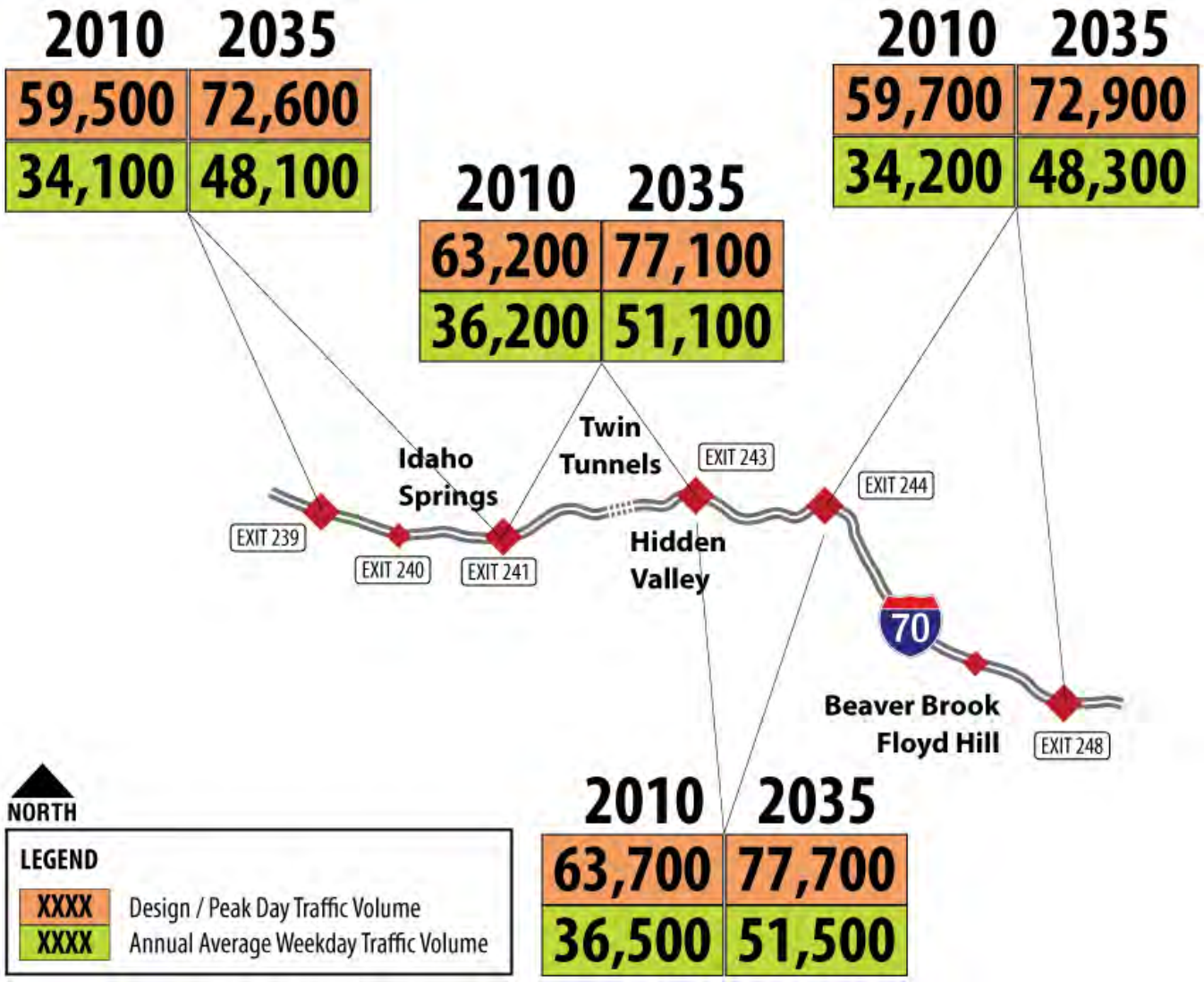
Did we address all your questions?

- What is the relationship between the toll and congestion? How does it improve flow? How does it improve reliability of travel time?
- What are the assumptions for the model in determining how much the toll should be?
- What is the value of time used in the model?
- How do managed lanes improve flow?
- How do managed lanes affect the 1041 process?
- Are there other processes that will review this option and how does public input play into those processes?
- What is the revenue generation?
- What infrastructure is required?

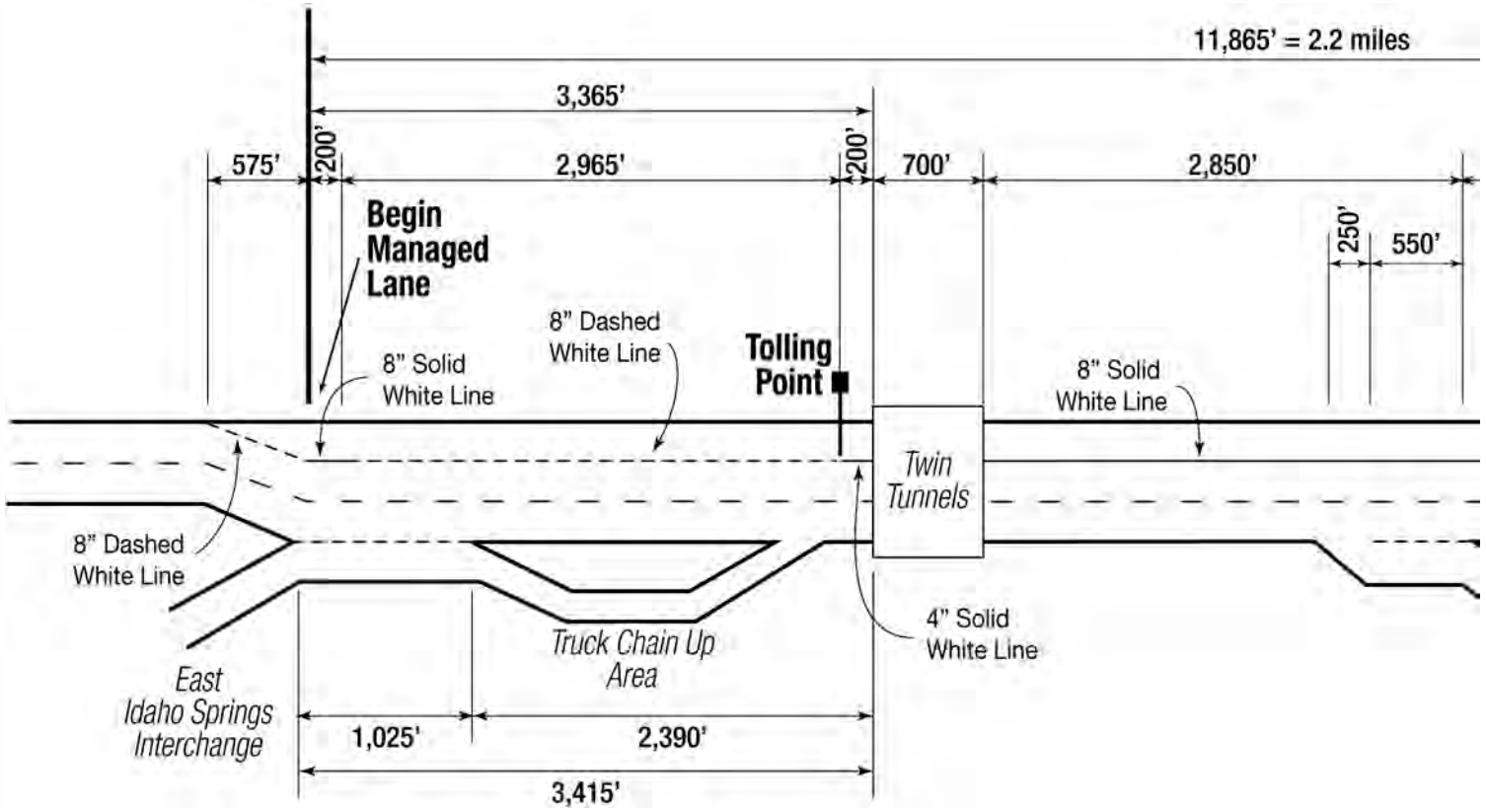
Did we address all your questions?

- What is the relationship between PEIS model and the DYNUST model?
- When will the tolls turn on – time of day and initial day – what is the threshold?
- How will travelers be notified?
- How does the managed lane affect or improve air quality?
- How does the managed lane affect or improve emergency response?
- How do managed lanes affect the footprint? Could the design speed be higher if we didn't have managed lanes?
- How will the model be validated and tested?
- What are the safety implications of the managed lane option?

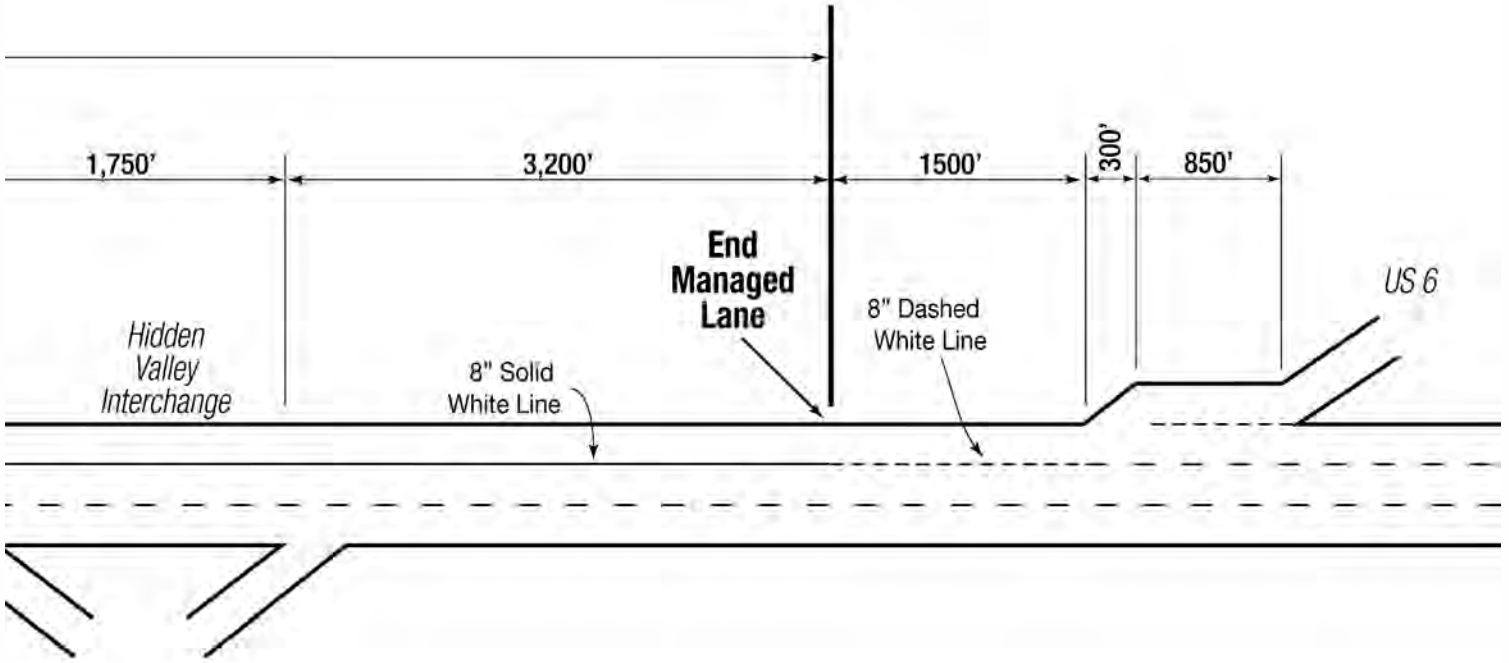
Existing and 2035 daily volumes



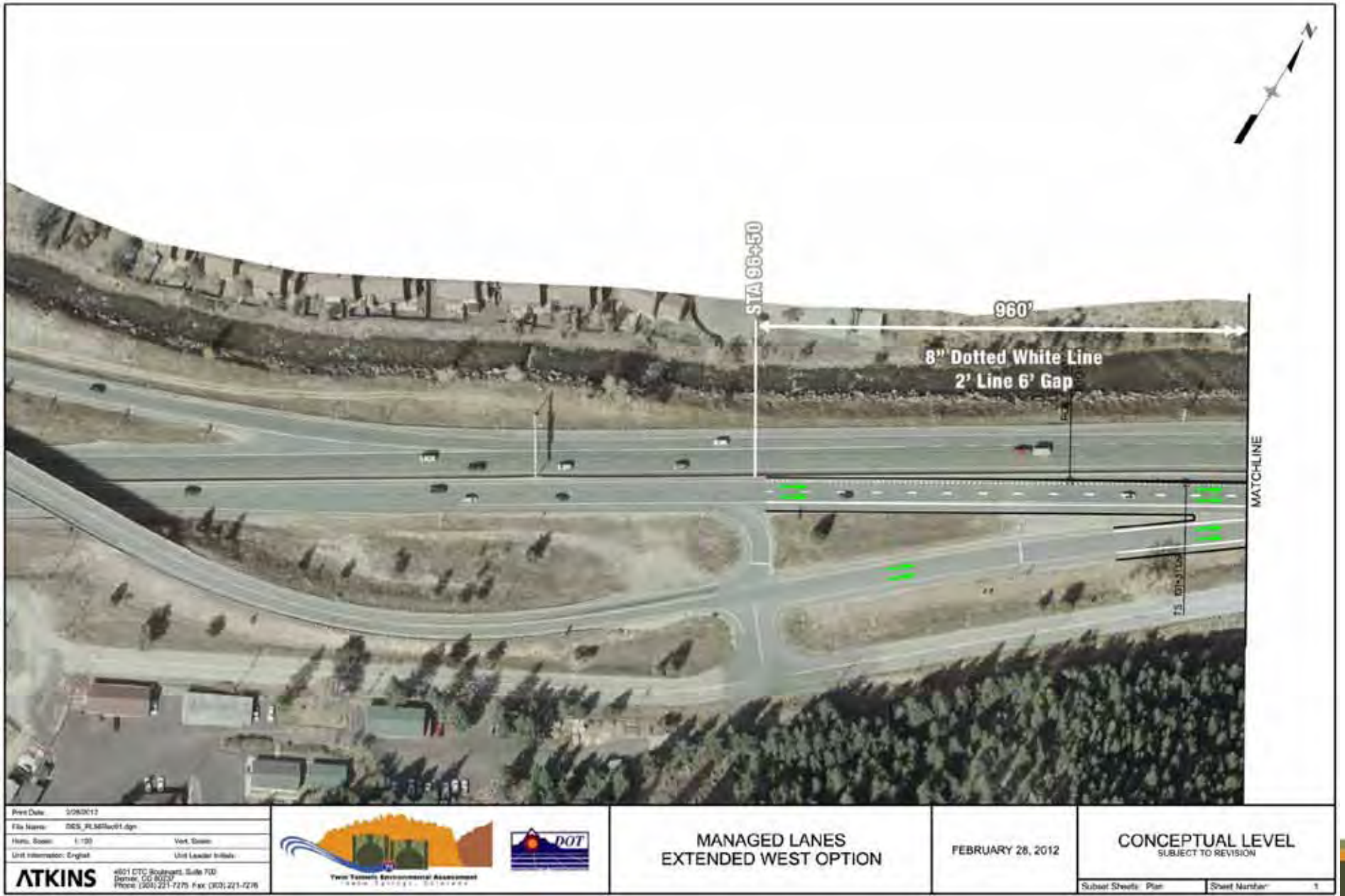
Managed lane configuration (West)



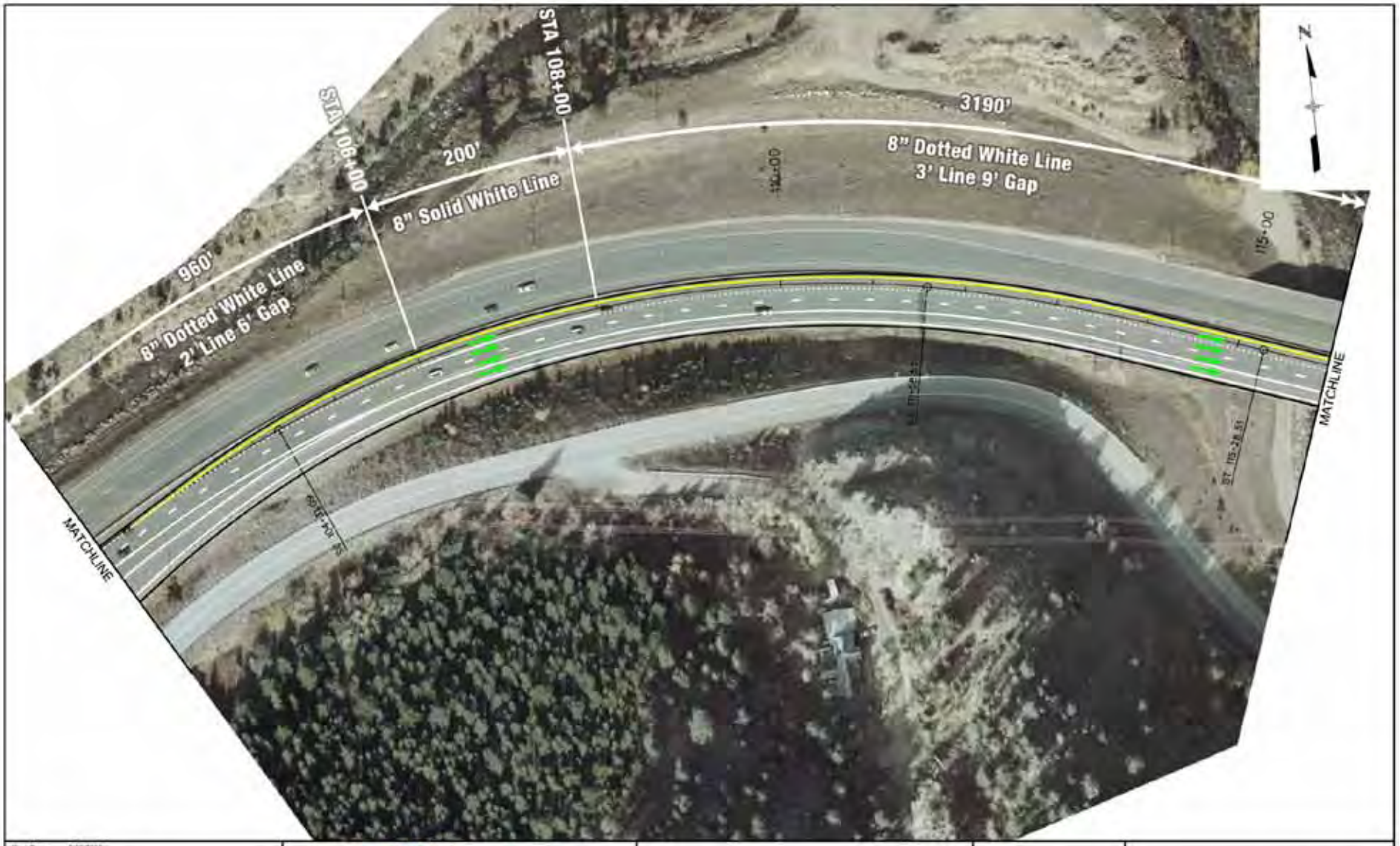
Managed lane configuration (East)



Managed lane entrance configuration



Managed lane entrance configuration



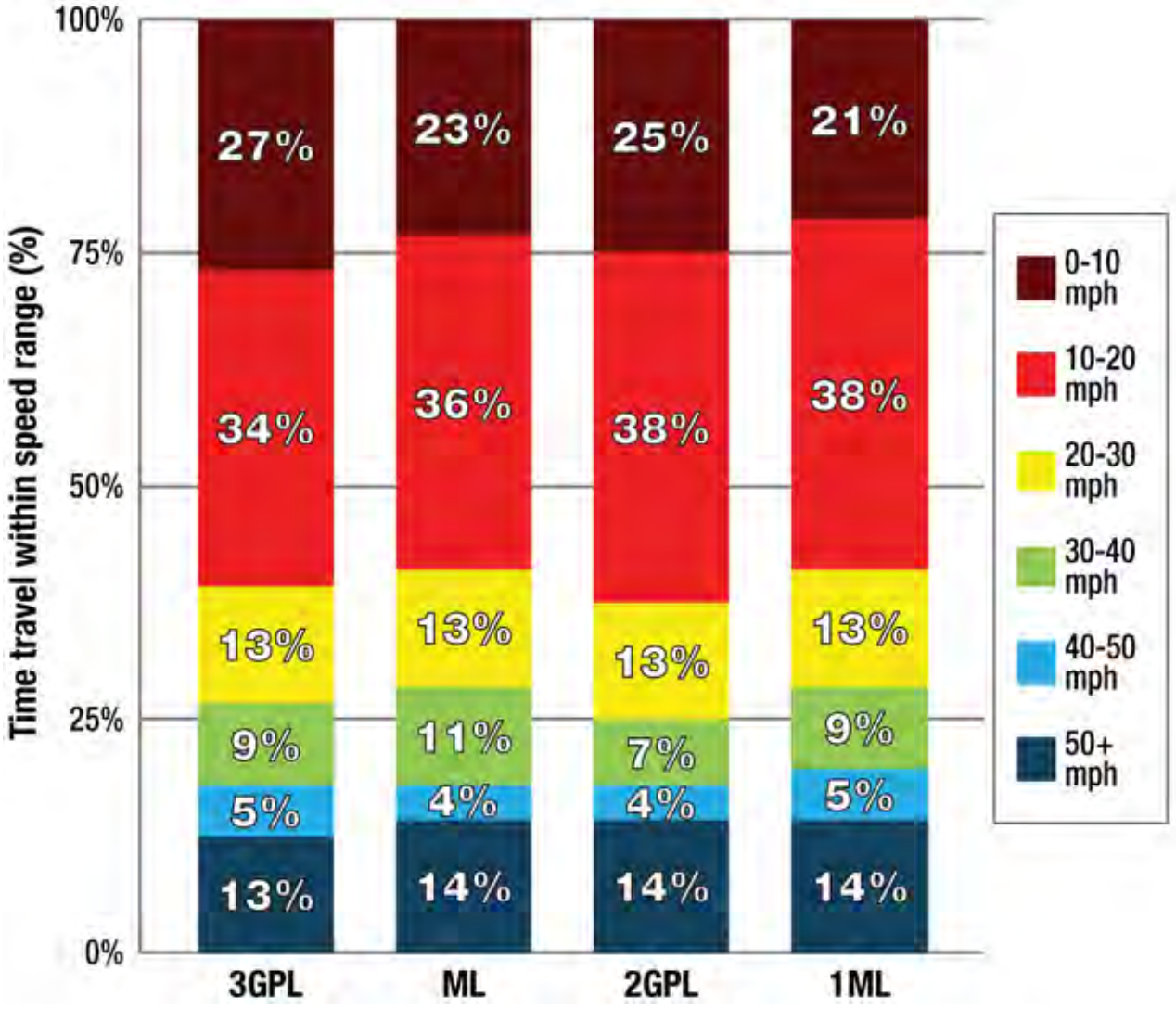
Plot Date: 2/26/2012 File Name: DES_PL06Rec02.dgn Horiz. Scale: 1:100 Vert. Scale: Unit Information: English Unit Leader Initials: ATKINS 4601 DTC Boulevard, Suite 700 Denver, CO 80237 Phone (303) 221-7270 Fax (303) 221-7276	Twin Tunnels Environmental Assessment	DOT	MANAGED LANES EXTENDED WEST OPTION	FEBRUARY 28, 2012	CONCEPTUAL LEVEL SUBJECT TO REVISION Subset Sheets: Plan Sheet Number: 2

Managed lane entrance configuration

Managed lane entrance configuration

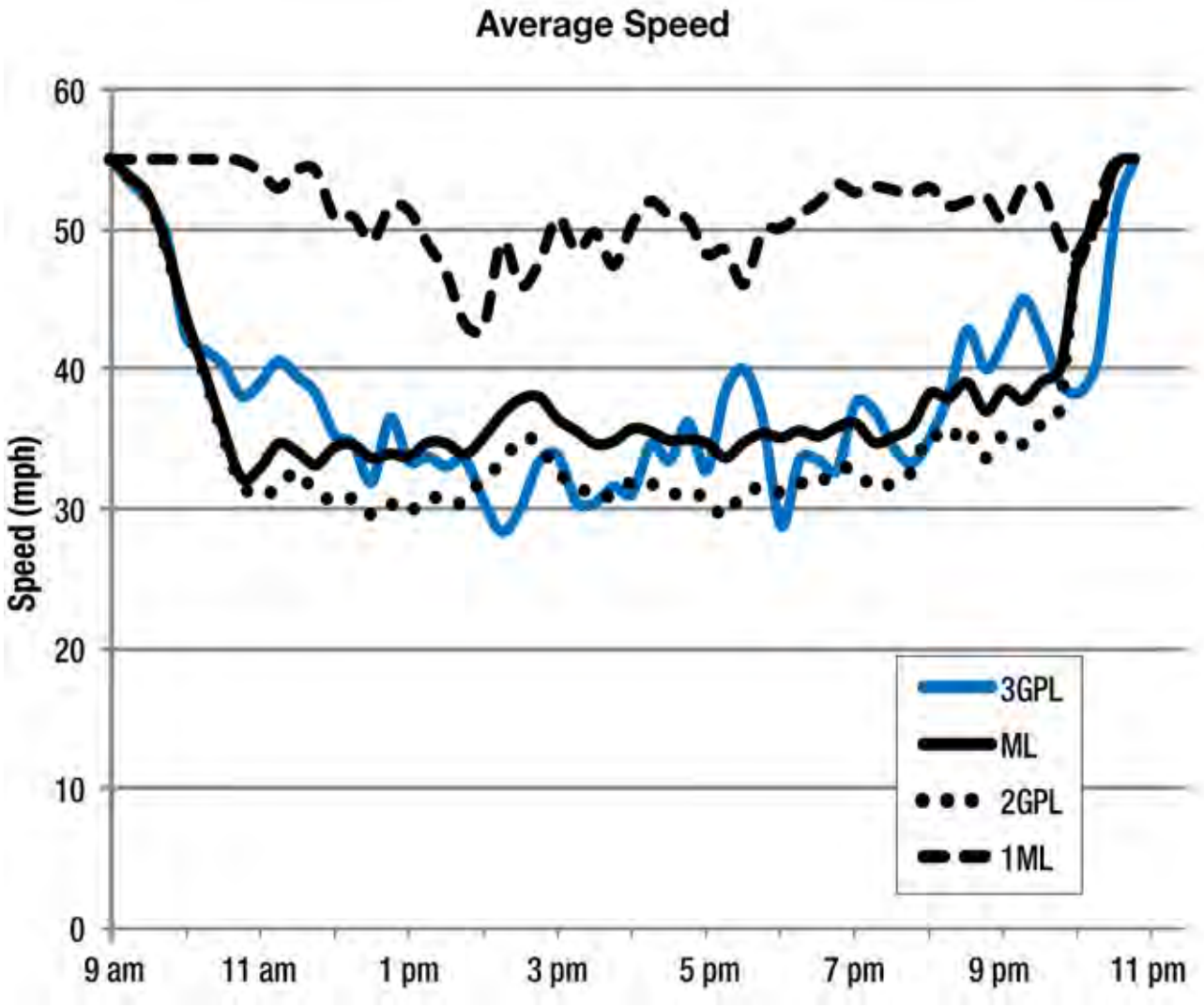
ML speeds

- 2GPL slightly worse than 3GPL
- 1ML slightly better than 2GPL and 3GPL



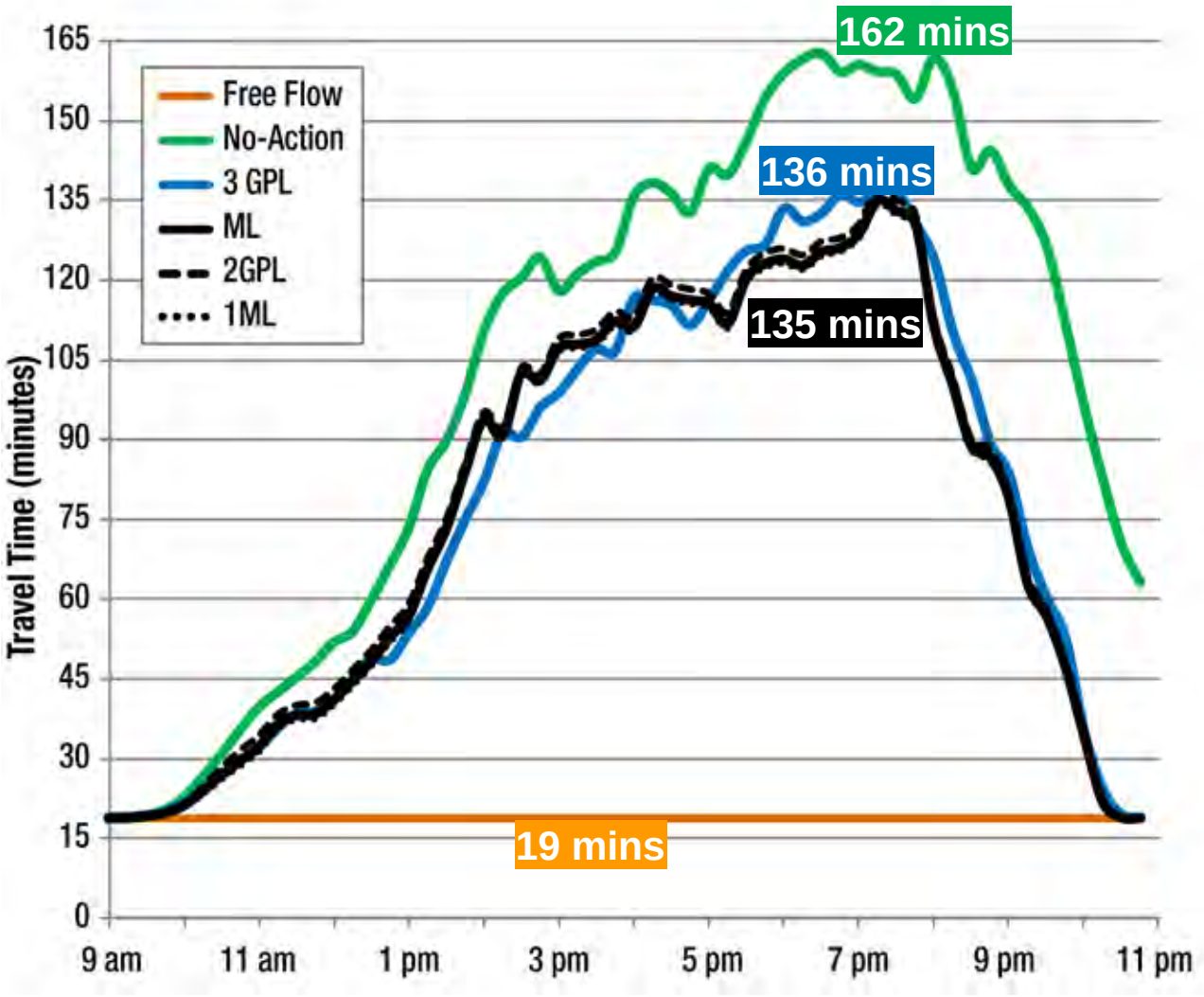
Speeds in 3GPL vs. ML

- 2GPL
  - 36% higher than No-Action
  - 6% lower than 3GPL
- 1ML
  - 97% higher than No-Action
  - 36% higher than 3GPL
  - 44% higher than 2GPL



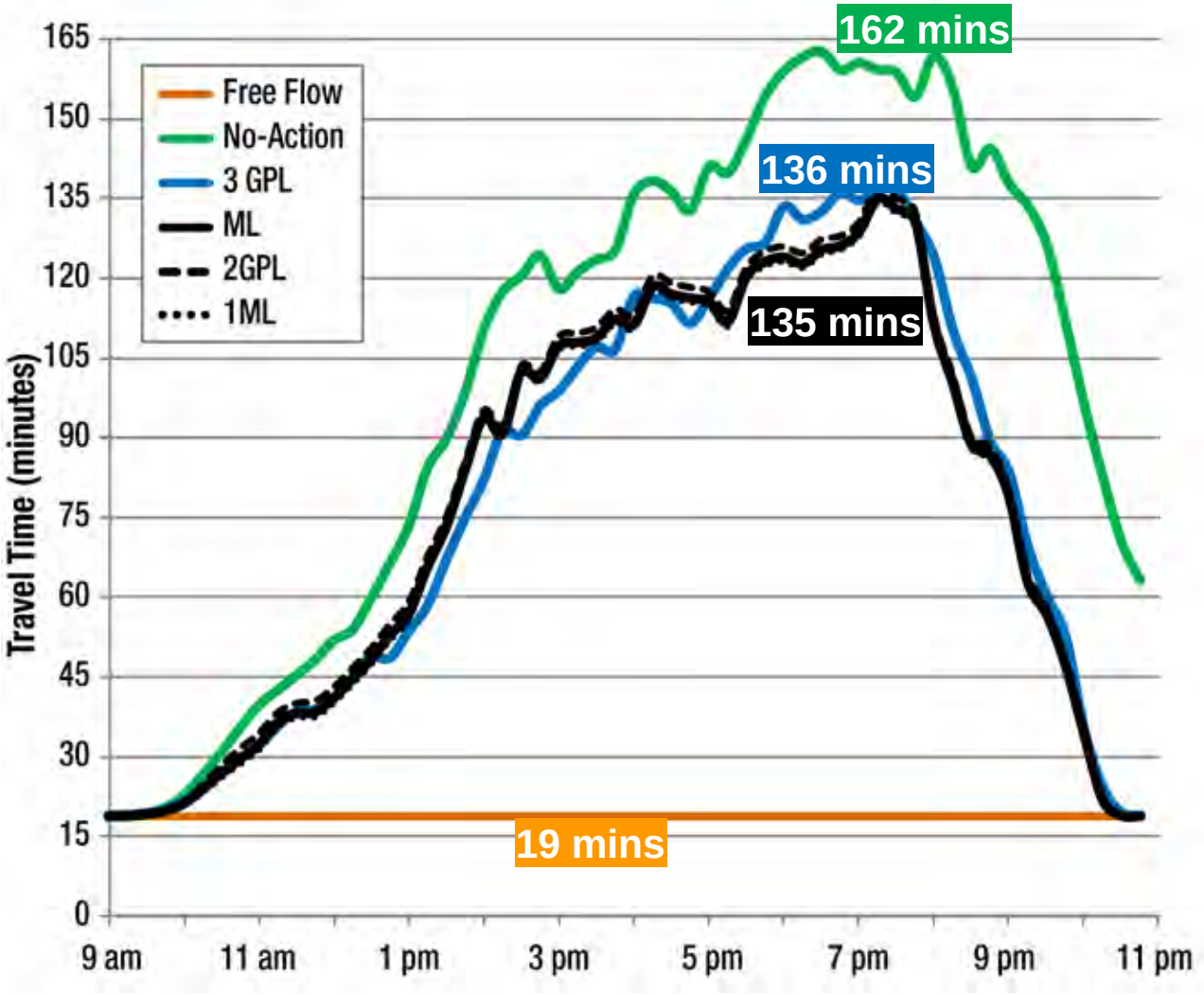
ML travel times

- Delay per vehicle
  - 58 minutes of delay per vehicle (31% less vs. No-Action)
  - 1% less than 3GPL



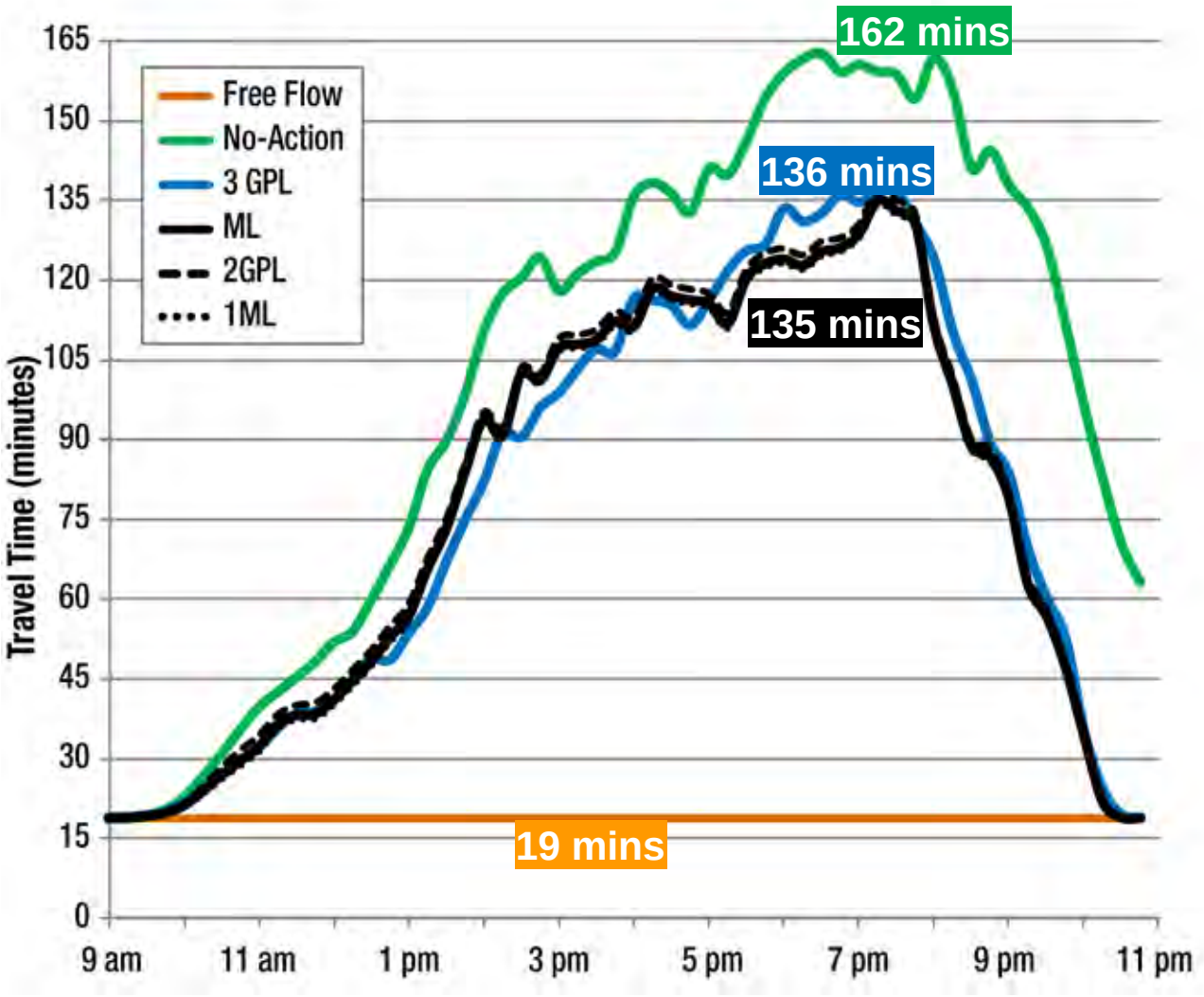
ML travel times

- 2GPL Longest travel time
  - 137 minutes (15% shorter vs. No-Action)
  - Less than 1% longer than 3GPL
- Average travel time
  - 78 minutes (24% shorter vs. No-Action)
  - 1% longer than 3GPL



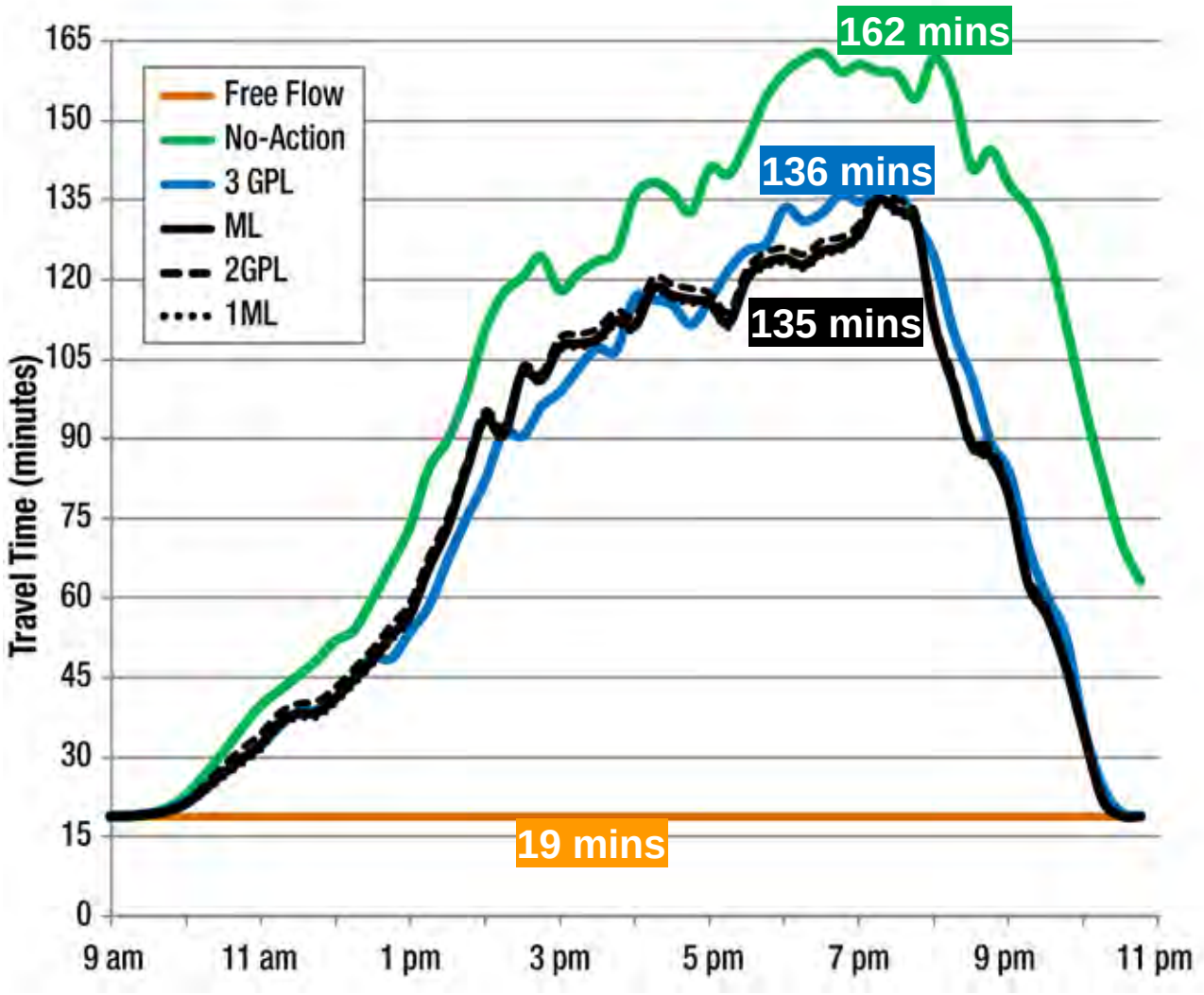
ML travel times

- Delay per vehicle
  - 59 minutes of delay per vehicle (29% less vs. No-Action)
  - 1% more than 3GPL



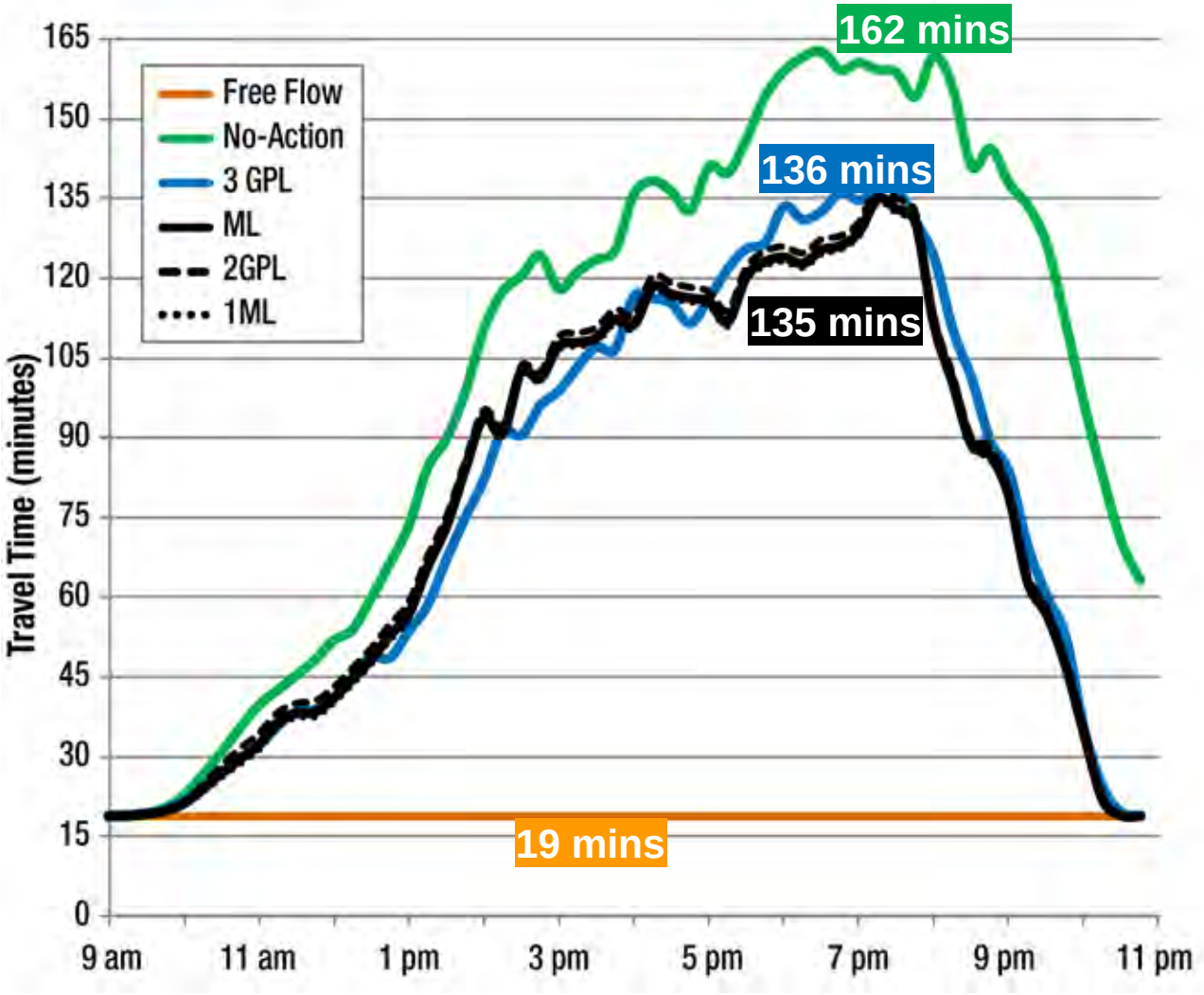
ML travel times

- 1ML - Longest travel time
  - 134 minutes (17% shorter vs. No-Action)
  - 1% shorter than 3GPL
  - 2% shorter than 2GP lanes
- Average travel time
  - 76 minutes (25% shorter vs. No-Action)
  - 2% shorter than 3GPL
  - 3% shorter than 2GP lanes



ML travel times

- Delay per vehicle
  - 57 minutes of delay per vehicle (31% less vs. No-Action)
  - 2% more than 3GPL
  - 4% less than 2GP lanes



Project area safety (MP 241 to MP 244)

	2010 Existing	2035 No-Action	2035 Proposed Action 3 GPL	2035 Proposed Action ML
Average Daily Traffic (AADT)	42,000	59,200	59,200	59,200
Actual/estimate crashes per year	86	100	65 – 75	70 - 80
Difference from expected	+49%	+49%	+25%	+28%
Difference from No-Action	N/A	N/A	-25% to -35%	-20% to -30%