



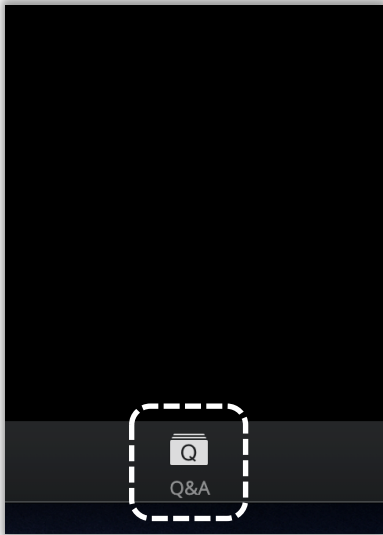
# North Lake Shore Drive Task Force Meeting #11

June 11, 2020

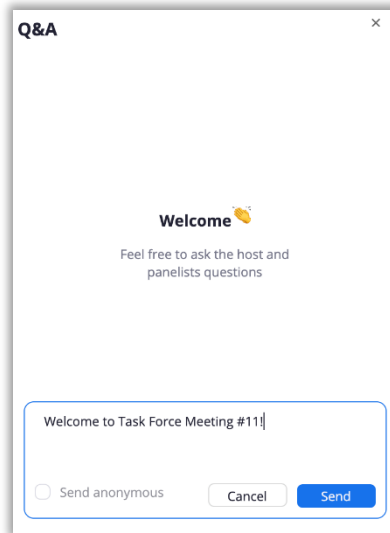
# Welcome

# Webinar Information

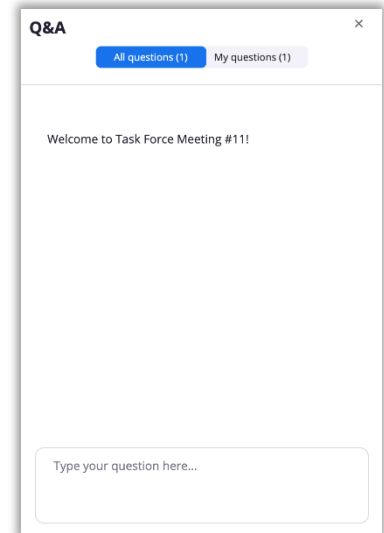
## How to ask a question



Bottom center of the webinar find and click the Q&A symbol



Type in your question and press send



View any questions you asked throughout the meeting

- Please type your questions throughout the meeting, rather than wait
- Questions will be answered during the two designated time periods
- The project team will post answers to your unanswered questions on the project website
- **Please test this feature by providing your name and organization!**



# Today's Panelists

- Nathan Roseberry
  - Chicago Department of Transportation
- Kimberly Murphy
  - Illinois Department of Transportation
- Lissa Domoracki
  - Metro Strategies, Inc.
- Michael Folkening
  - Civiltech Engineering, Inc.
- Peter Harmet
  - Christopher B. Burke Engineering
- Amanda Kleinwachter
  - Civiltech Engineering, Inc.

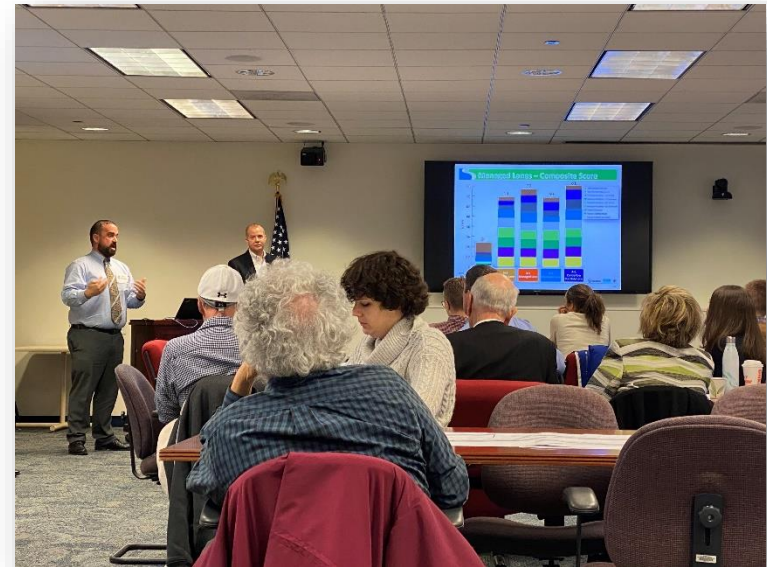


# Meeting Agenda

- Introduction
- Task Force #10 Recap
- Task Force #10 Comments and Questions
  - Break and Response to Questions (Session #1)
- Refined Managed Lanes (ML) Alternatives Evaluation
- Recommended Alternatives to be Carried Forward
- Public Meeting #4 Preview
- Level 3 Screening Preview
- Next Steps
  - Break and Response to Questions (Session #2)

# Task Force Meeting #10 Recap

- Meeting held on March 9, 2020 at CMAP
- 60 Task Force members attended
- 8 written Task Force comments





# Task Force #10

## Comments and Questions

# TF #10 Comments and Questions

## Key Themes

- Baseline improvements are common to all alternatives
- Refinements to 4+1 Contraflow Bus Only Lane Alternative (4+1 CBOL)
- NLSD and climate change
- Managed Lanes management strategies
- Transit mode share
- Managed Lanes alternatives evaluation criteria and results



# TF #10 Comments and Questions

## Key Themes

- **Baseline improvements common to all alternatives**

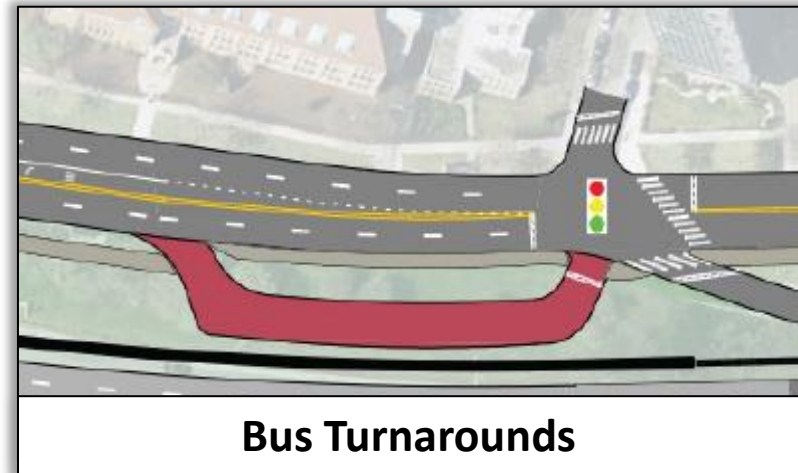
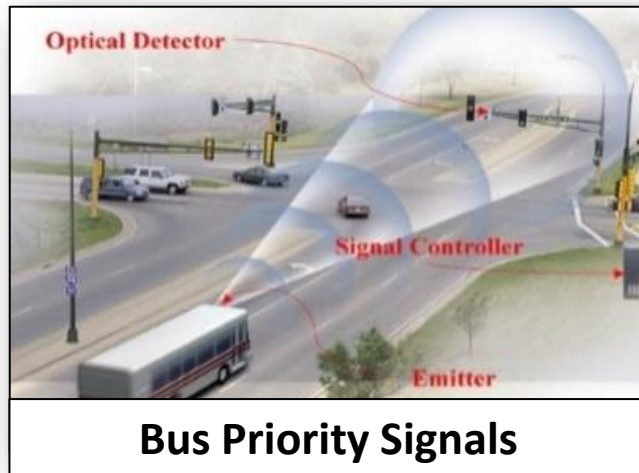
*What improvements are common to all alternatives?*



# Baseline Improvements

## Transit Improvements

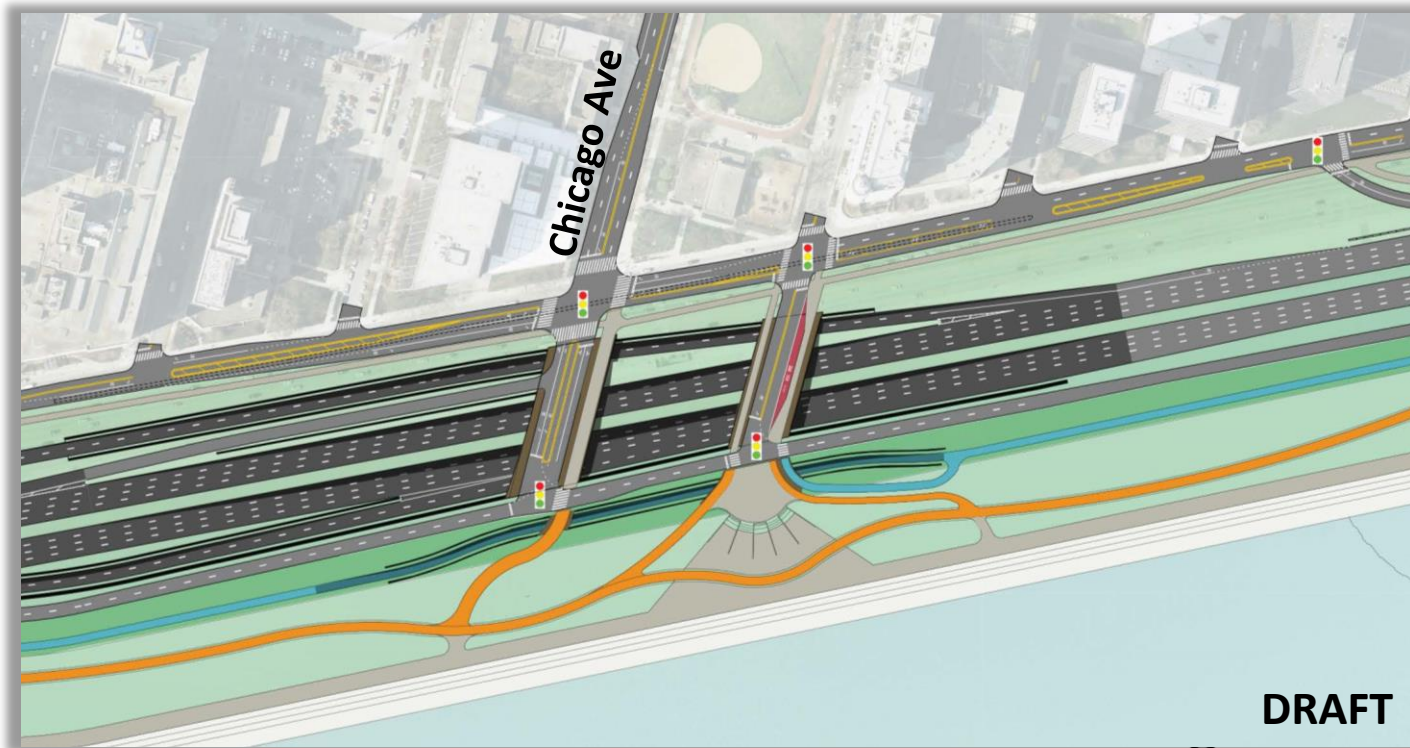
- Transit improvements are provided through the corridor including spot improvements such as bus priority signals, bus turnarounds, and staging areas
- Improvements serve N-S buses along NLSD and E-W buses to/from Lincoln Park



# Baseline Improvements

## Chicago Avenue Junction

- Replaces existing signal with full junction
- Eliminates major traffic bottleneck and improves safety
- Improves access to Lincoln Park for people walking, people biking and transit



# Baseline Improvements

## Oak Street S-Curve

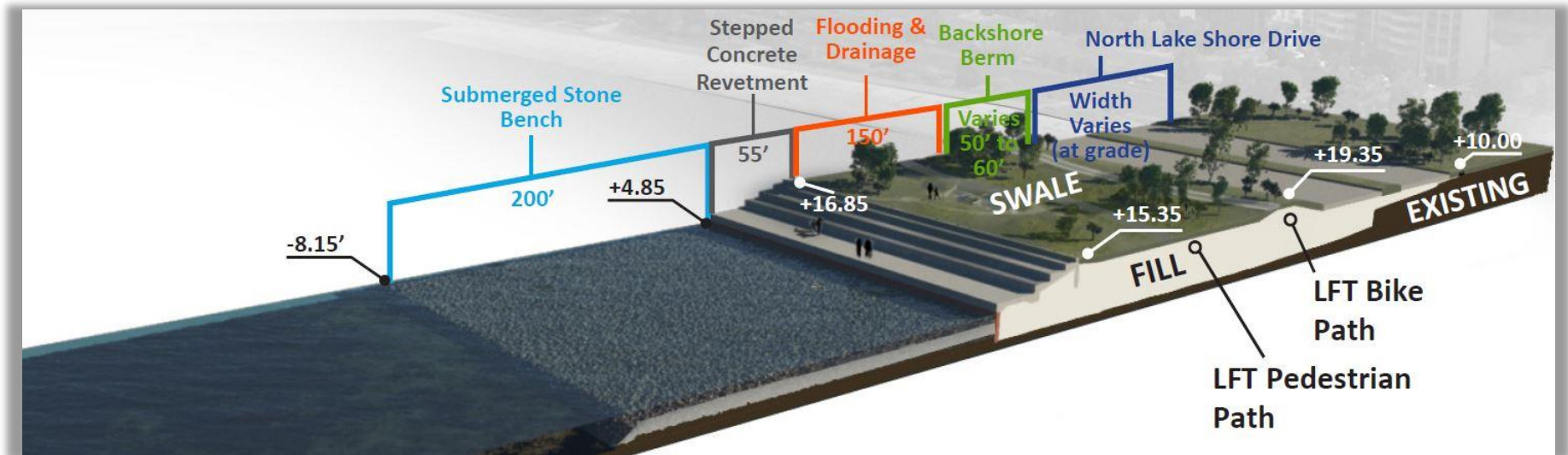
- Flatten the curve of the roadway to address safety and congestion issues



# Baseline Improvements

## Shoreline Protection

- Prevents wave overtopping from reaching the Outer Drive and Lakefront Trail bike path
- Shoreline protection primarily between Grand Avenue and Fullerton Parkway



# Baseline Improvements

## Green Space

- Shoreline extended east, from Grand Avenue to Fullerton Parkway
- Corridor-wide transportation footprint also reduced, where feasible
- Minimum of 64 acres of green space added



# Baseline Improvements

## Clear Zones

- Clear zones added along roadway edges to improve safety and to provide space for disabled vehicles, incident management and speed enforcement



**Existing Conditions\***  
No clear zones

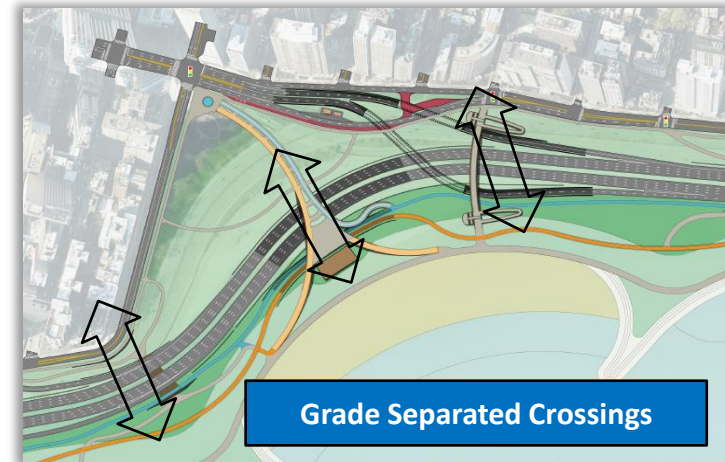


**Base Context Tailored Treatment Alternative\***  
Added clear zones

# Baseline Improvements

## Lakefront Trail Improvements

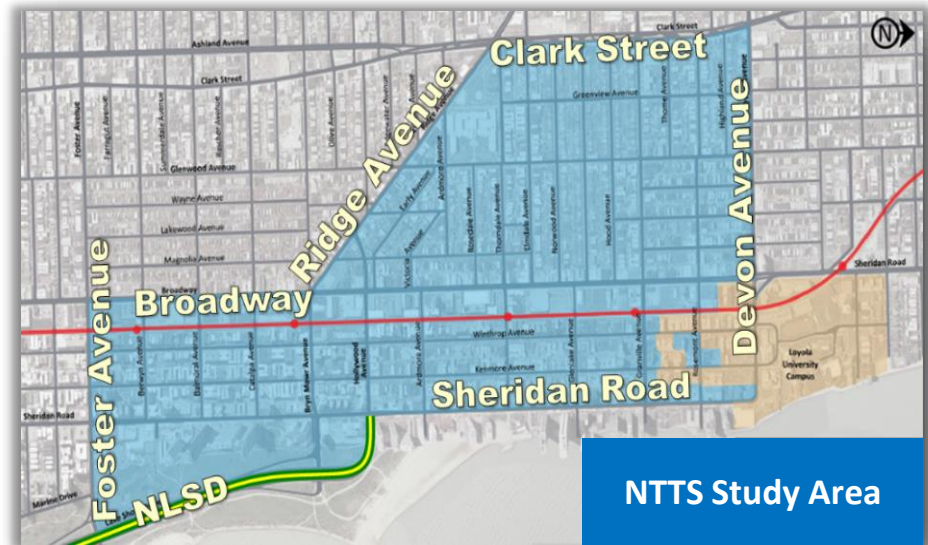
- Trail separation for people walking and biking
- Grade separation at junctions for people walking and biking from motor vehicles
- Reconstruct existing east-west crossings and provide additional access (every ¼ mile along the corridor)
- Expand existing sidewalks and paths at junctions



# Baseline Improvements

## Northern Terminus Traffic Study

- Focused study of the northern terminus
- Study goals:
  - To address high traffic volume issues in area
  - Preserve neighborhood quality of life
  - Improve pedestrian and bicycle safety
  - Improve safety, mobility, and accessibility for all users







# TF #10 Comments and Questions

## Key Themes

- Base improvements are common to all alternatives
- **Refinements to 4+1 Contraflow Bus Only Lane Alternative (4+1 CBOL)**
- NLSD and climate change
- Managed Lanes management strategies
- Transit mode share
- Managed Lanes alternatives evaluation criteria and results

# 4+1 Contraflow Bus Only Lane

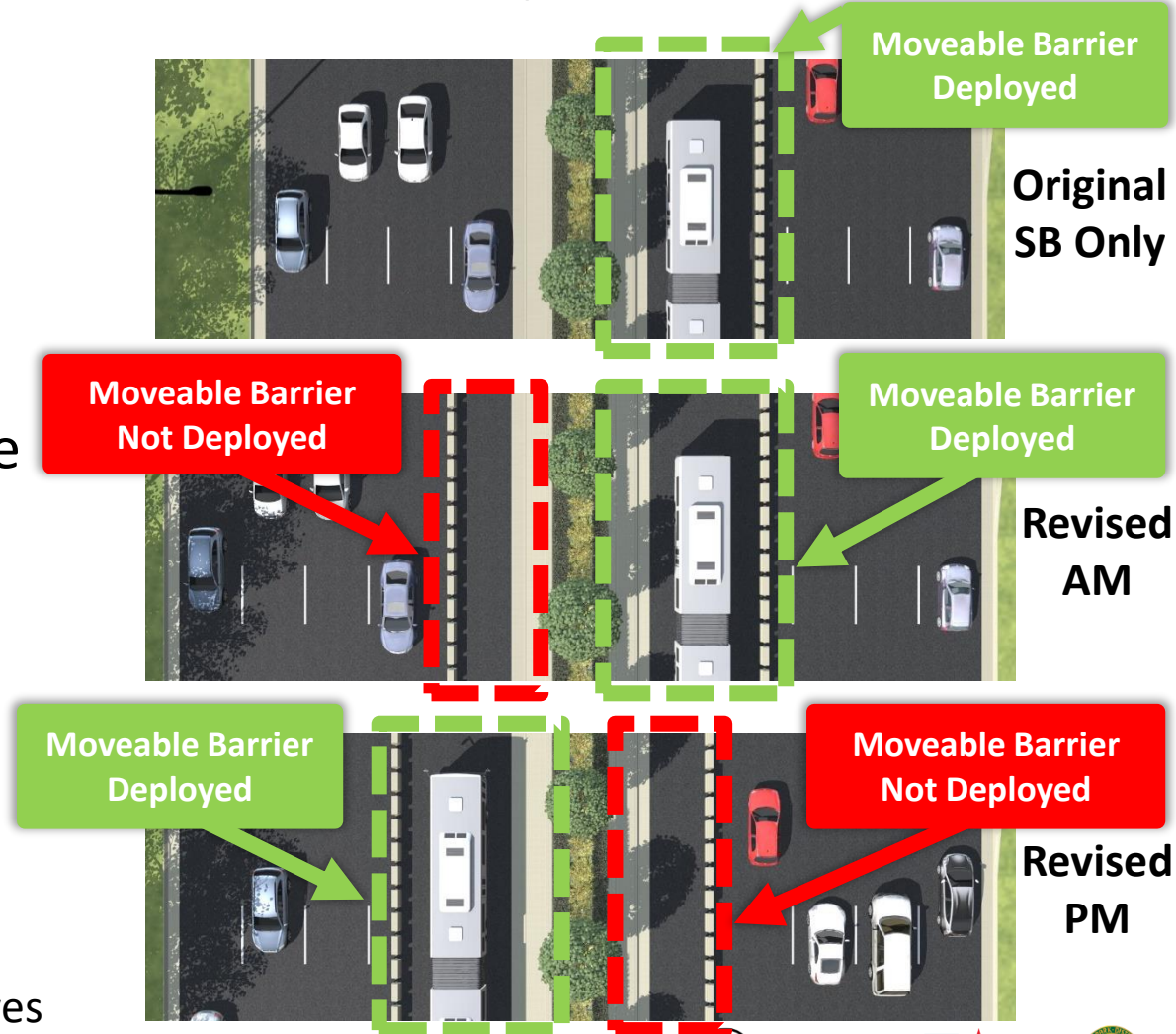
## Feedback from Task Force

- Mixture of viewpoints
- Key comment was lack of northbound managed lane
  - Operational flexibility
  - Forward compatibility
- Additional comments
  - Reliability during cold weather conditions
  - Long term maintenance
  - Emergency access provisions

# 4+1 Contraflow Bus Only Lane

## Managed Lanes Evaluation - Major Flaw Review

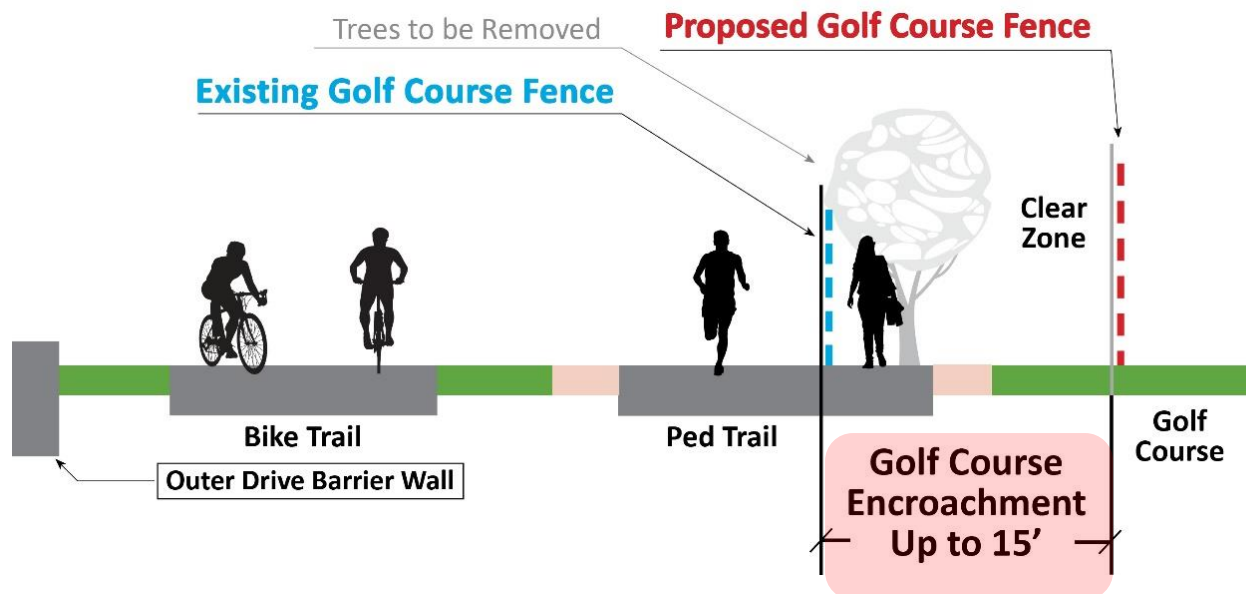
- The original 4+1 CBOL Alternative included a Southbound Bus Only Lane during the AM Peak Hour
- Based on feedback, the 4+1 CBOL Alternative was refined to also include a Northbound Bus Only Lane during the PM Peak Hour
  - Refined layout is more consistent with other Managed Lane Alternatives



# Managed Lanes Evaluation – Major Flaw Review

- With the revised cross section, the 4+1 CBOL would encroach **up to 15 feet** into the Golf Course
- *As mentioned with the 3+2 Reversible Managed Lanes (3+2 RML), other alternatives avoid this impact while addressing the Purpose and Need*

## Revised 4+1 CBOL Typical Cross Section



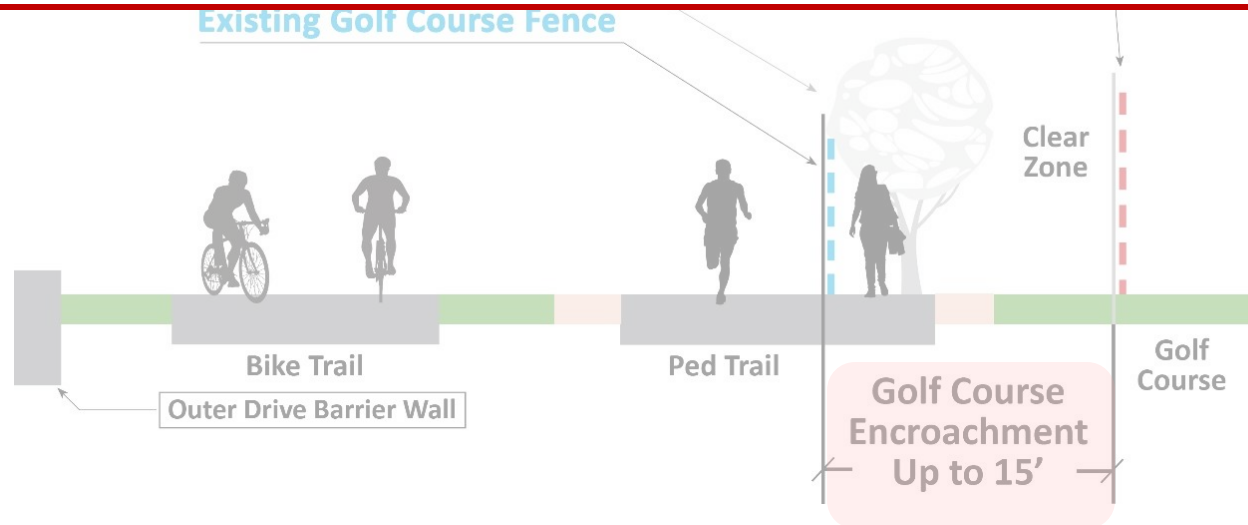
# Managed Lanes Evaluation – Major Flaw Review

- With the revised cross section, the 4+1 CBOL would encroach **up to 15 feet** into the Golf Course
- *As mentioned with the 3+2 Reversible Managed Lanes (3+2 RML), other alternatives avoid this impact while addressing the Purpose and Need*

## Revised 4+1 CBOL Typical Cross Section



***It is recommended to remove this alternative from further consideration, based on Major Flaws***



# Level 2 Screening

RANGE OF ALTERNATIVES CATEGORY	RANGE OF ALTERNATIVES	RECOMMENDED FOR DISMISSAL (LEVEL 2 SCREENING)	RECOMMENDED TO BE CARRIED FORWARD
No-Action	No-Action	N/A	N/A
Context Tailored Treatments	Corridor Modernization		Top Performing CTT with Transit Advantages
	Compressed Roadway		
	Frontage Drive		
Transitways	Transit Advantages at Junctions		Dedicated Transitway – Left
	Bus on Shoulder – Right	Bus on Shoulder – Right	
	Dedicated Transitway – Left		
	Dedicated Transitway – Off Alignment	Dedicated Transitway – Off Alignment	
Managed Lanes	3+1 Bus Only Lane		
	3+1 Managed Lane		
	2+2 Managed Lanes		
	3+2 Reversible Managed Lanes	3+2 Reversible Managed Lanes	
	4+1 Contraflow Bus Only Lane	4+1 Contraflow Bus Only Lane	

# TF #10 Comments and Questions

## Key Themes

- Base improvements are common to all alternatives
- Refinements to 4+1 Contraflow Bus Only Lane Alternative (4+1 CBOL)
- **NLSD and climate change**

*How is climate change being considered?*

# NLSD and Climate Change

All NLSD planning considers local and regional plans for climate change adaptation:

- Must meet regional and federal air quality standards
- Prioritizing transit operations
- Improving accommodations for people who bike and walk
- Improving access to green space and parks





# NLSD and Climate Change

All proposed alternatives and designs address stormwater concerns by:

- Incorporating climate resilient infrastructure including shoreline protection techniques
- Adding green space and green infrastructure



Example: Bioswale retention system



# TF #10 Comments and Questions

## Key Themes

- Base improvements are common to all alternatives
- Refinements to 4+1 Contraflow Bus Only Lane Alternative (4+1 CBOL)
- NLSD and climate change
- **Managed Lanes management strategies**

*Why were certain junctions chosen for ML access for motor vehicles?*

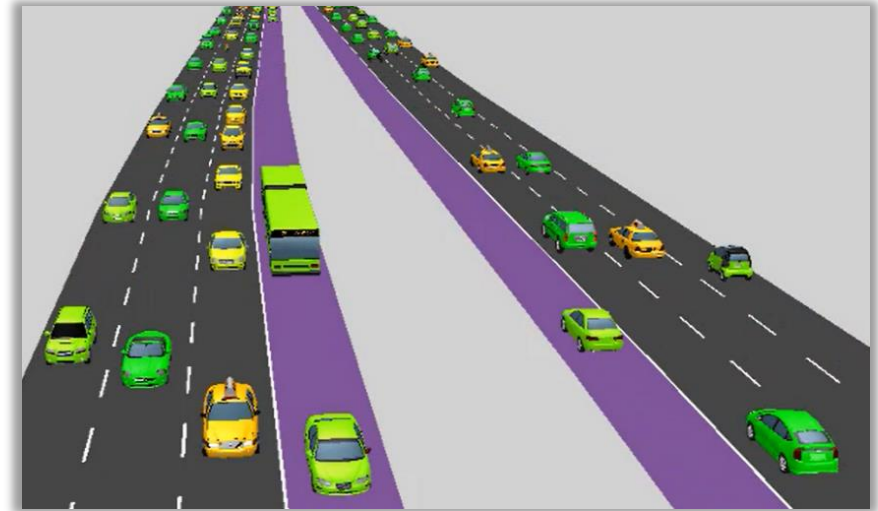
*Why is direct access to the ML needed?*

*How would the ML tolling operate and what would it look like?*

# Number of Managed Lane Access Points

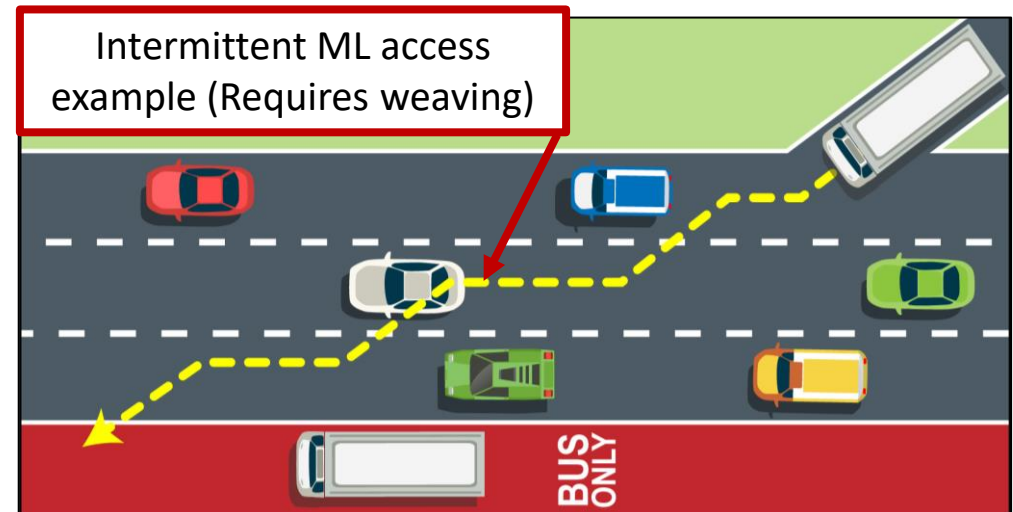
## ML Access Frequency

- Access points create congestion, reduce ML speed
- Limited ML access assures high transit mobility and reliability
- Max capacity to maintain 40 mph speed = 1,200 vehicles/hour



## Intermittent Access

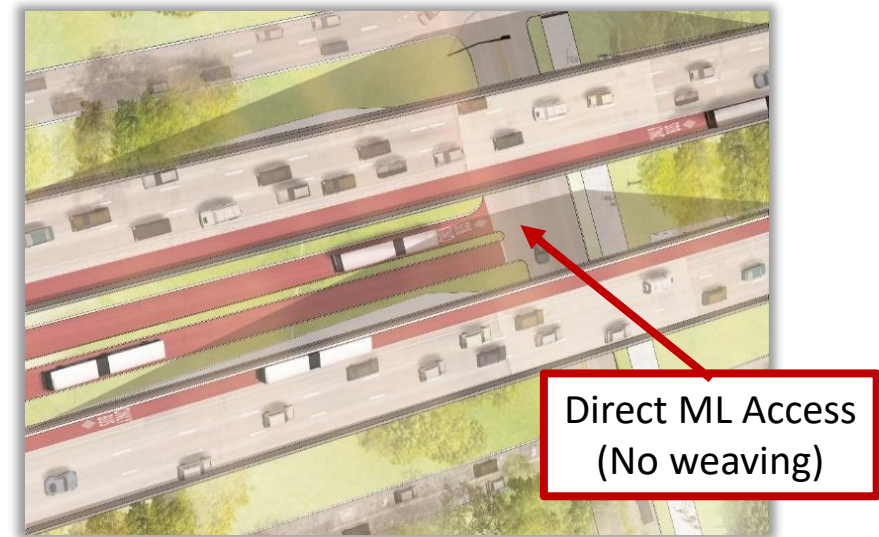
- Requires weaving
- Safety concerns
- Less efficient



# Managed Lane Access

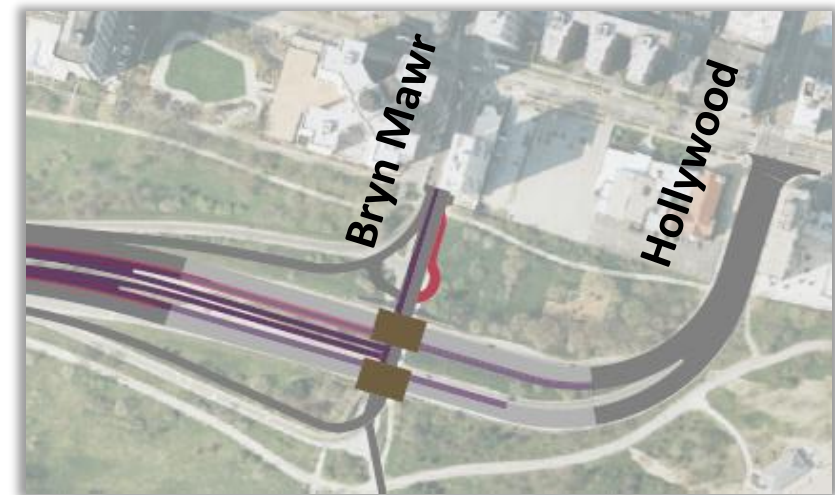
## Direct Access

- Eliminates weaving
- Improves safety
- Improves efficiency



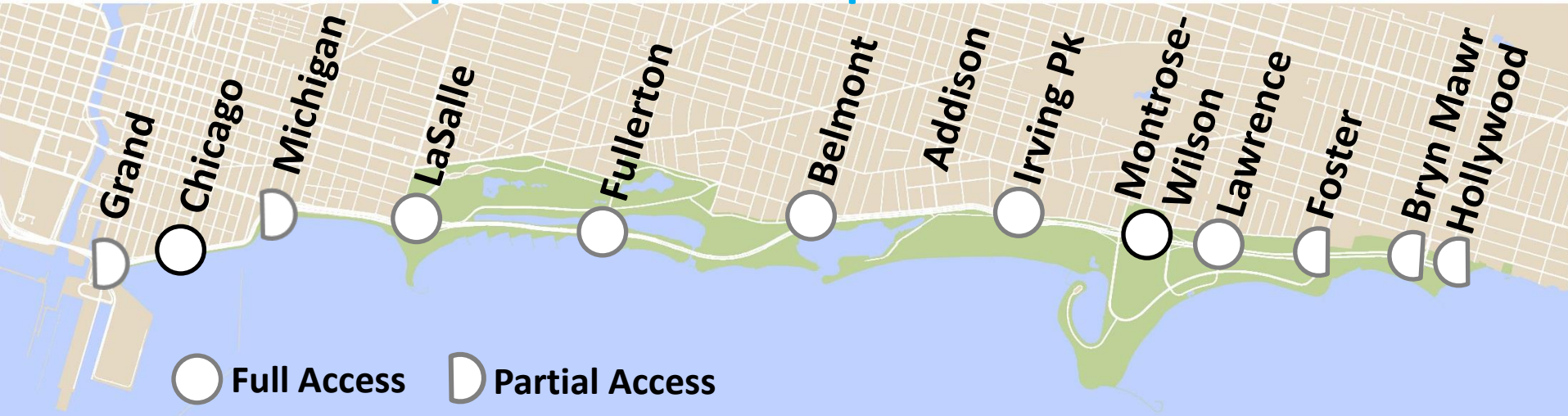
## Northern Terminus

- Access at Bryn Mawr and at Hollywood proposed to spread demand
- Compatible with Northern Terminus Traffic Study alternatives



# Proposed Managed Lane Access Locations

## Proposed General Purpose Lane Access



## Proposed Managed Lanes Access



## Tolling Concept

- **Three possible types** (Static, Time-of-day and Dynamic)
- **Dynamic tolling**
  - Variable toll rate that changes in real time based on ML volume
  - Toll rate fixed once vehicle enters ML
- **Dynamic tolling recommended to:**
  - Control ML volume
  - Assure high ML mobility



## Toll Collection and Enforcement

- **ML Toll collection** done electronically with the use of cameras
- Illinois Tollway's *I-Pass* transponder system may be used for vehicle identification
- Toll collection equipment likely required at all ML entrances and exits



## Toll Enforcement

- Accomplished electronically with cameras at the junctions

## ML Access Enforcement

- Accomplished electronically with cameras along the Outer Drive at regular intervals





## Tolling Equipment

- Equipment can be tailored to individual project settings to the extent possible



## Managed Lane Advanced Signing

- Advanced ML signs would provide:
  - Directions to ML access ramps or lanes
  - Real time toll amounts for travel to downstream ML exits
- Majority of ML signing would be located outside of Lincoln Park on approach roadways



**Example Cross Street Approach Signing**

# TF #10 Comments and Questions

## Key Themes

- Base improvements are common to all alternatives
- Refinements to 4+1 Contraflow Bus Only Lane Alternative (4+1 CBOL)
- NLSD and climate change
- Managed Lanes management strategies
- **Transit mode share**

*How does each Managed Lane alternative affect transit mode share?*

# Transit Mode Share

## What is Mode Share?

The percentage of trips by a mode of travel, such as:

- Transit
- Auto
- Bike/Walk

## What is a Mode Shift?

A change from one mode (e.g., auto) to another (e.g., transit)

The change in **Mode Share** will be used to define **Mode Shift**



# Transit Mode Share

## What basic factors influence transit mode share?

### Travel Demand

- Current and future ridership

### Travel Patterns

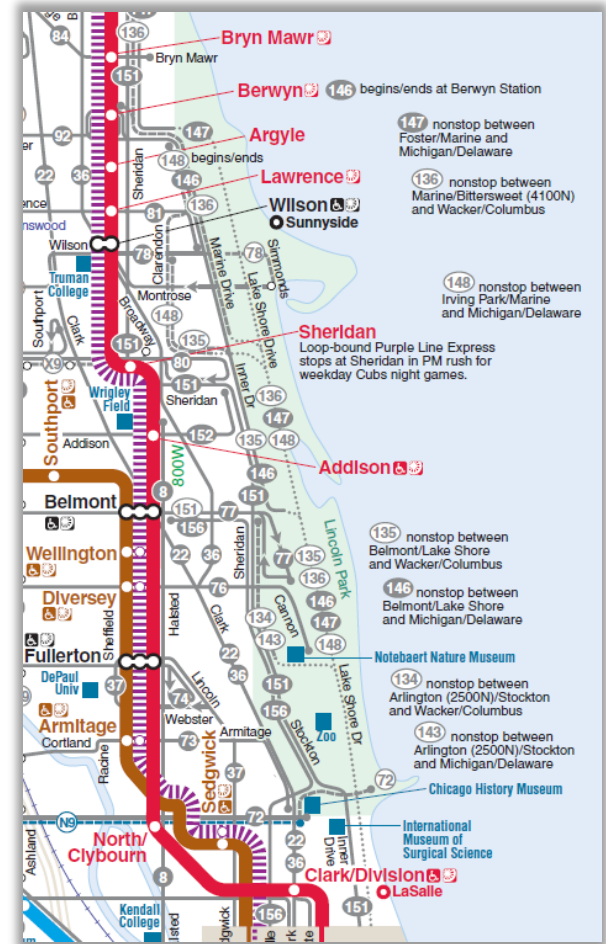
### Mobility and Reliability

- Travel time
- Variation in travel time
- Value of time

### Service Frequency

- Waiting time
- Connections

Additional reliability





# Travel Demand

## The CMAP Travel Demand Model assumes:

**Transit** growth *is unconstrained*  
(there is always space available  
on bus)

- 20% growth by 2040 (No Action)

**Auto** growth *is constrained*  
(lack of capacity improvements)

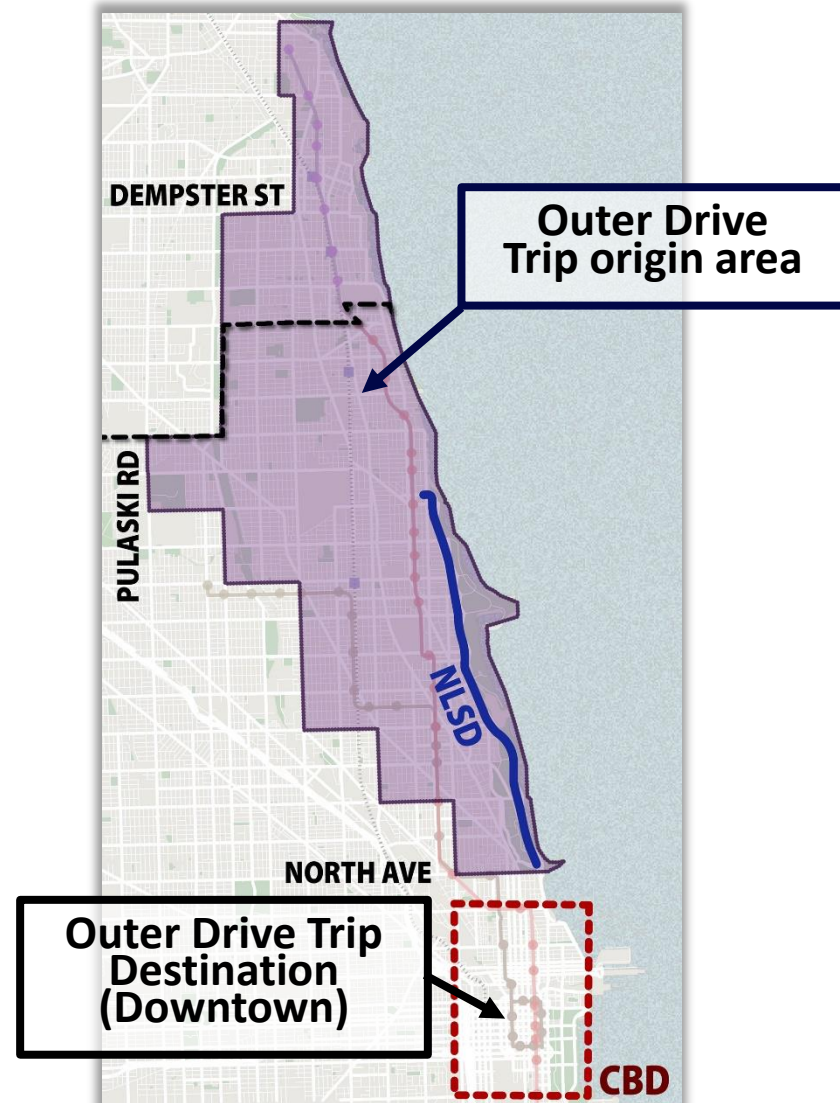
- 8% growth by 2040 (No Action)



# Travel Patterns - Origins

## A.M. Travel Patterns

- A.M. Peak is the highest/critical peak
- Southbound is the predominant NLSD travel direction during the A.M. peak
  - Majority of trips entering Outer Drive originate from area shown
  - Majority destined for downtown



# Travel Patterns – Existing Transit Coverage

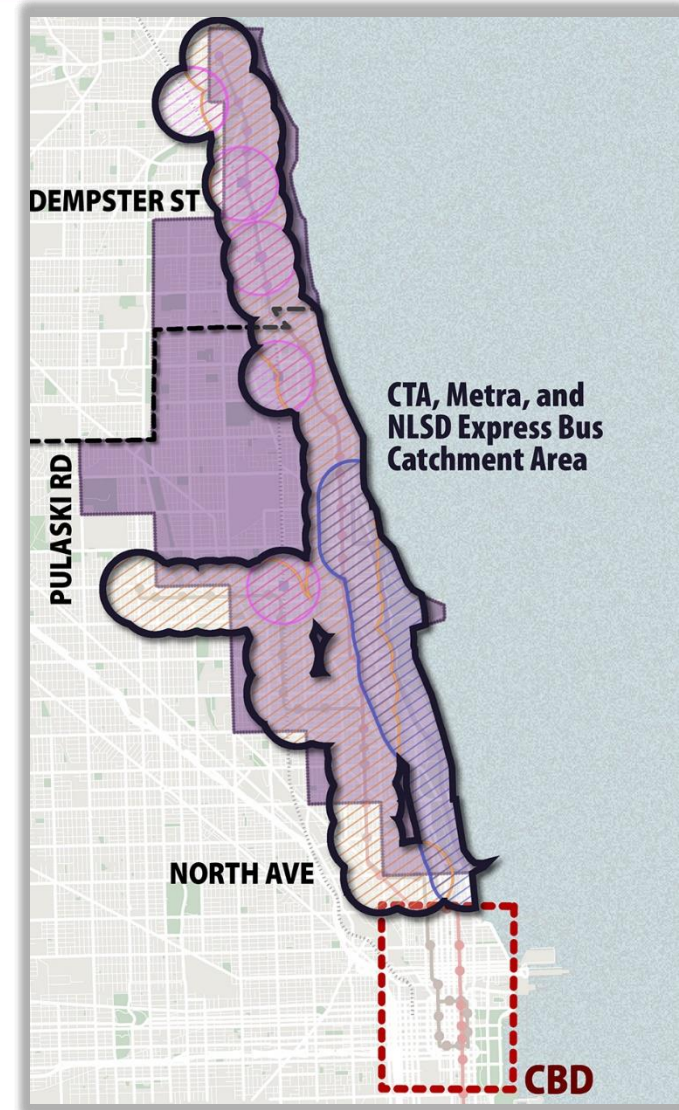
## Transit Coverage

- Longer distance trips
- CTA and Metra Rail

## Transit Catchment Areas

- Within ½ mile of a bus stop or rail station
- Overlap between Catchment Areas

**Origin area has extensive transit coverage**





# Mobility and Reliability

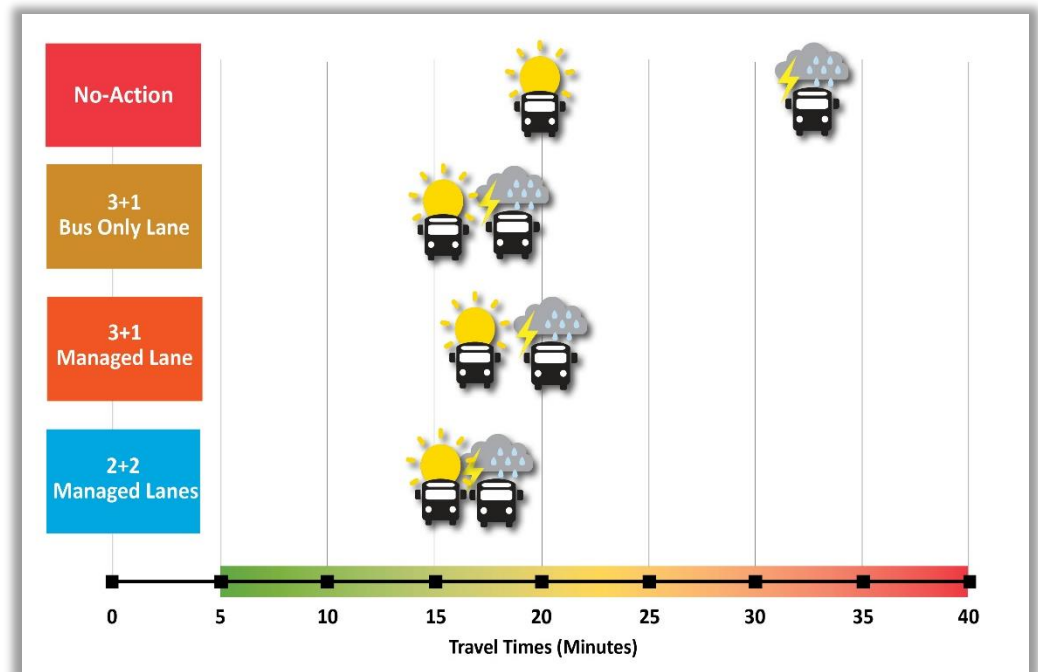
## All Managed Lane Alternatives improve Bus Mobility and Reliability:

### Bus Travel Times

- Reduced by up to 44%

### Bus Reliability

- Improved by to 78%

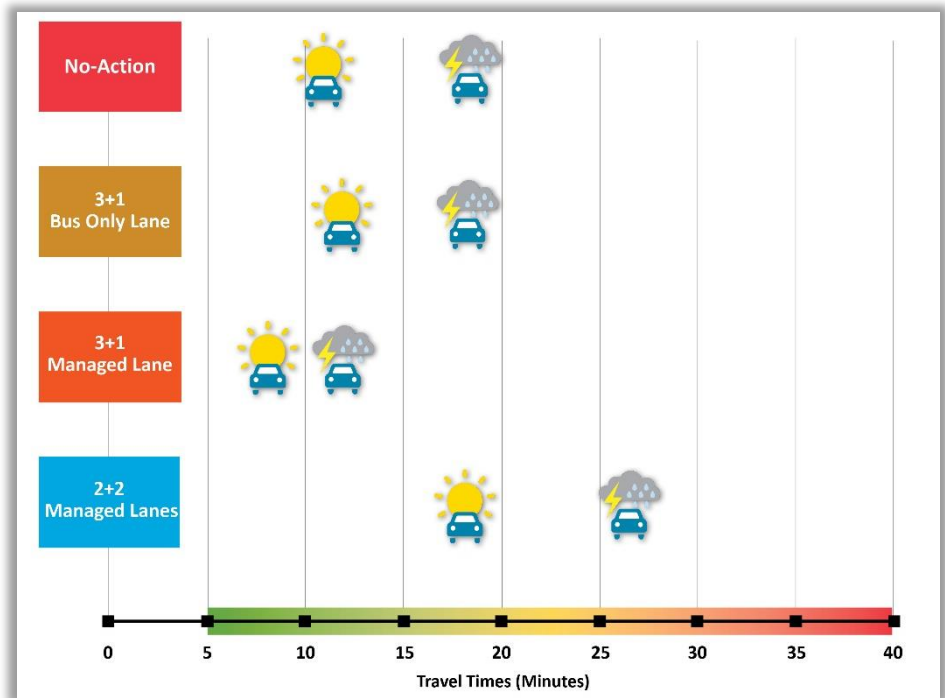


Transit Mobility (From Task Force #10)

# Mobility and Reliability

Travel time (and cost) increased for *some* autos:

- Reduced General Purpose lane capacity
- Diversion to arterial system
- Tolled managed lanes



Vehicular Mobility (From Task Force #10)

# Service Frequency

## Service Frequency

All Managed Lane Alternatives assume a substantial increase in frequency:

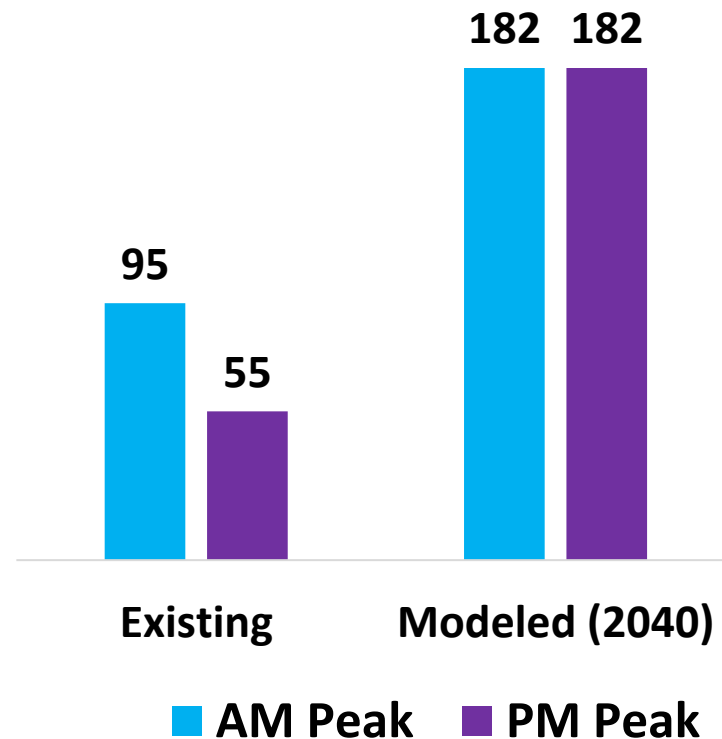
**Existing:** buses every 4 to 7 minutes (peak period)

- AM: 95 buses
- PM: 55 buses

**Modeled:** buses every 2 minutes (peak period)

- AM: 182 buses
- PM: 182 buses

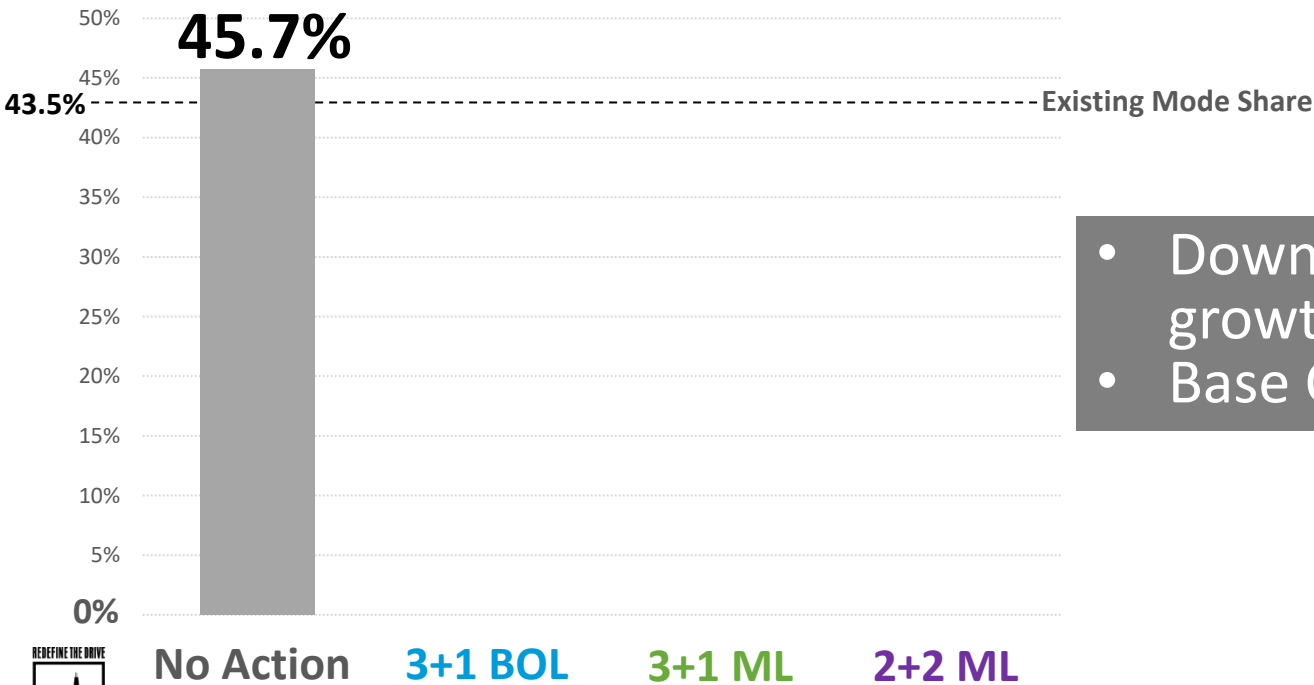
## Number of Buses



# Transit Mode Share - Results

## No Action Alternative (2040)

- 45.7% transit mode share
- 2.2% increase over existing

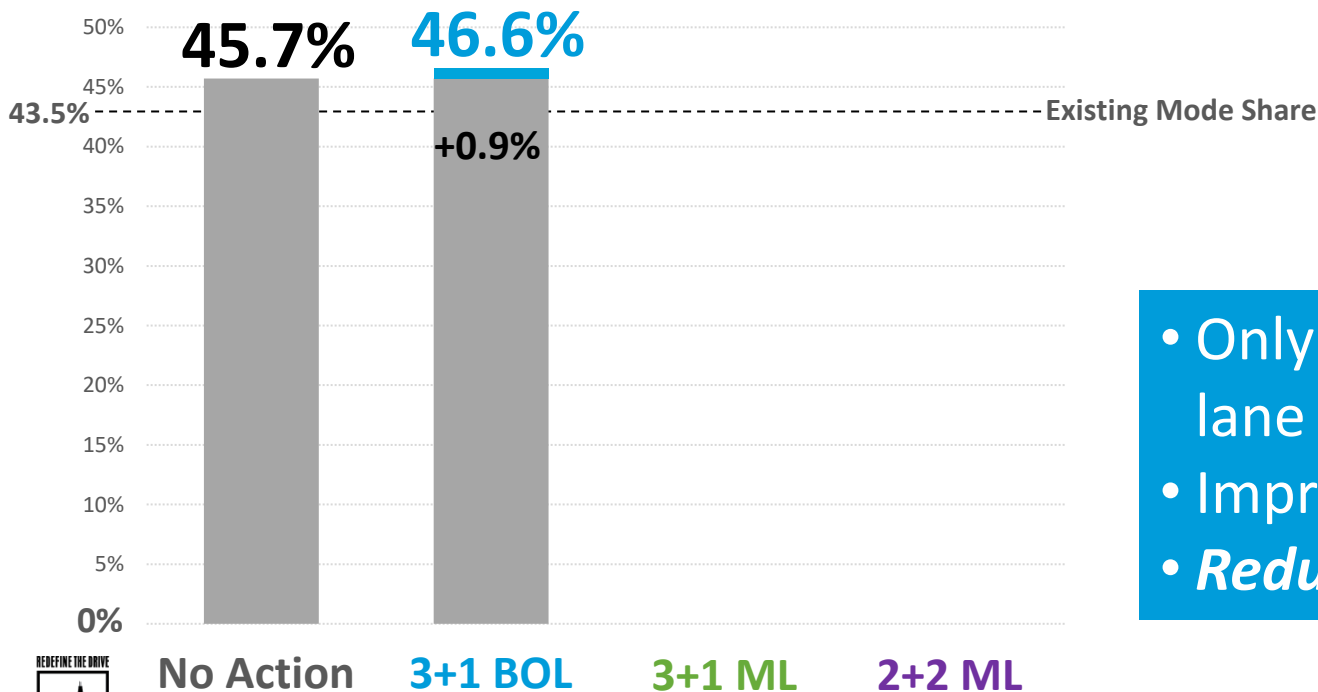


- Downtown employment growth
- Base CTA improvements

# Transit Mode Share - Results

## 3+1 Bus Only Lane Alternative

- 46.6% transit mode share
- 0.9% increase over No Action

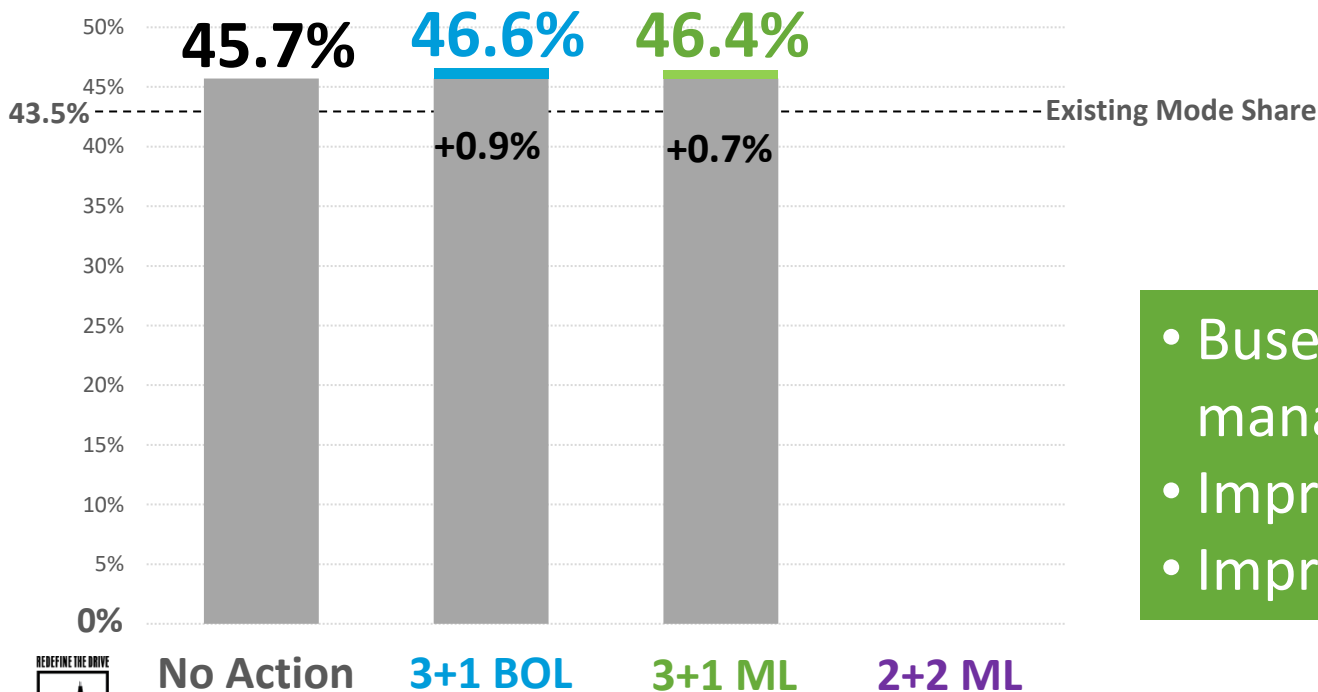


- Only buses in managed lane
- Improved bus mobility
- *Reduced* auto mobility

# Transit Mode Share - Results

## 3+1 Managed Lane Alternative

- 46.4% transit mode share
- 0.7% increase over No Action

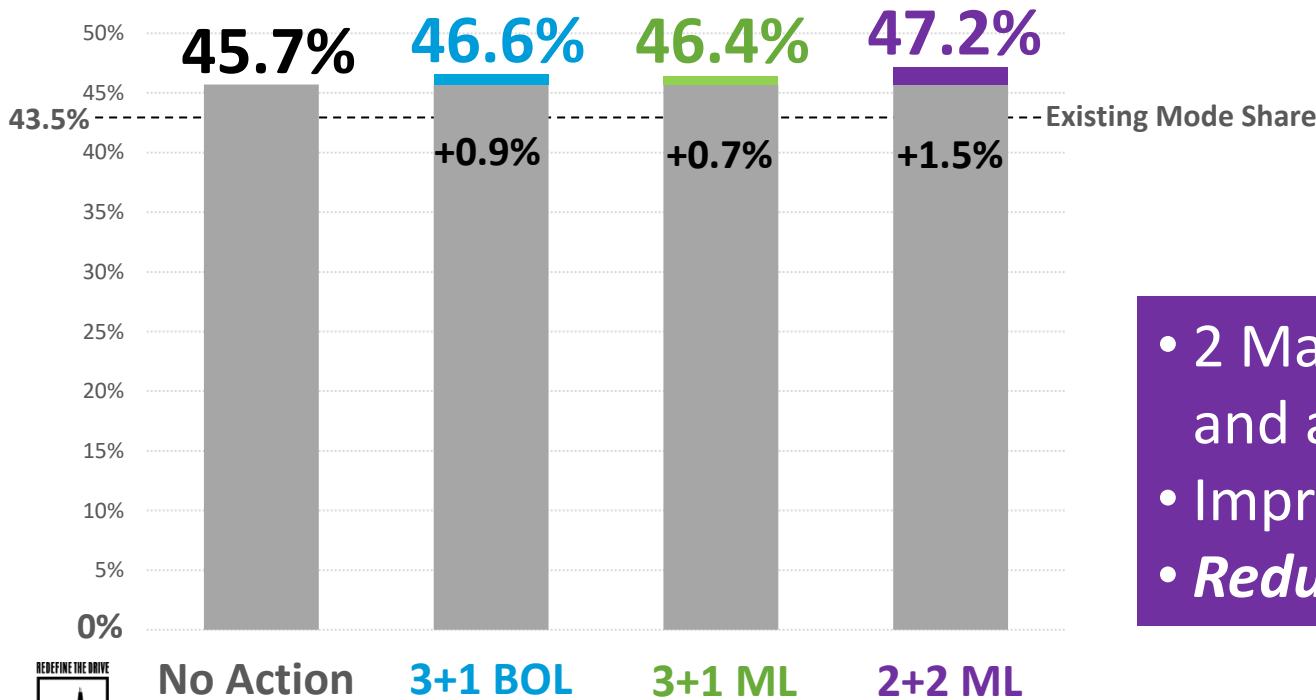


- Buses and autos use managed lane
- Improved bus mobility
- Improved auto mobility

# Transit Mode Share - Results

## 2+2 Managed Lane Alternative

- 47.2% transit mode share
- 1.5% increase over No Action



- 2 Managed Lanes (buses and autos)
- Improved bus mobility
- *Reduced* auto mobility

# Travel Demand and Service Frequency

How do the Managed Lane Alternatives accommodate the additional travel demand and service frequency?

Managed Lane Goal: maintain 40 mph speed

- Single Lane capacity: 1,200 vehicles per hour
- Two Lane capacity: 2,800 vehicles per hour



**3+1 BOL Alternative**



**3+1 ML Alternative**



**2+2 ML Alternative**

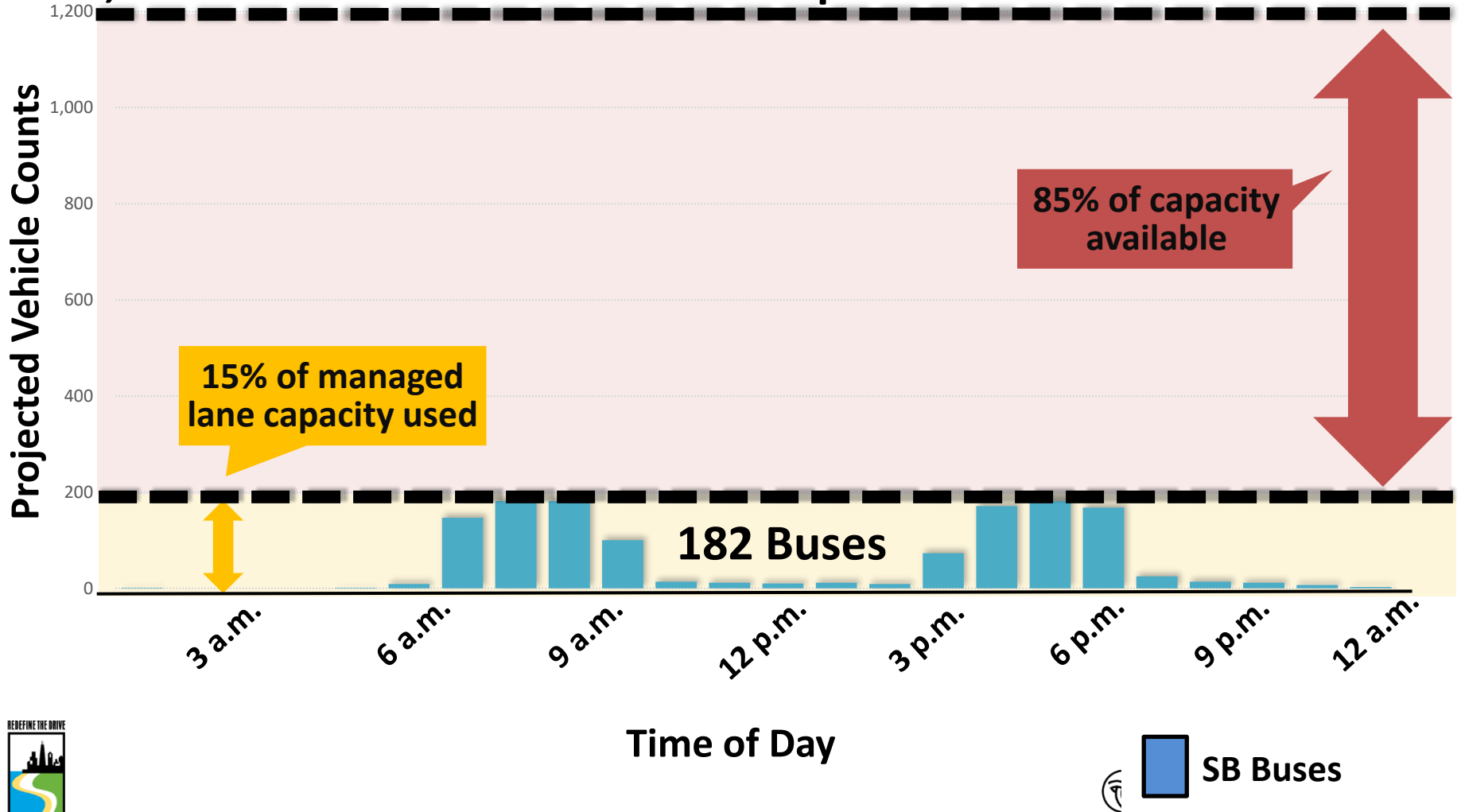
\*Red lines represent the existing roadway width



# Available Capacity of Managed Lanes

3+1 BOL Alternative

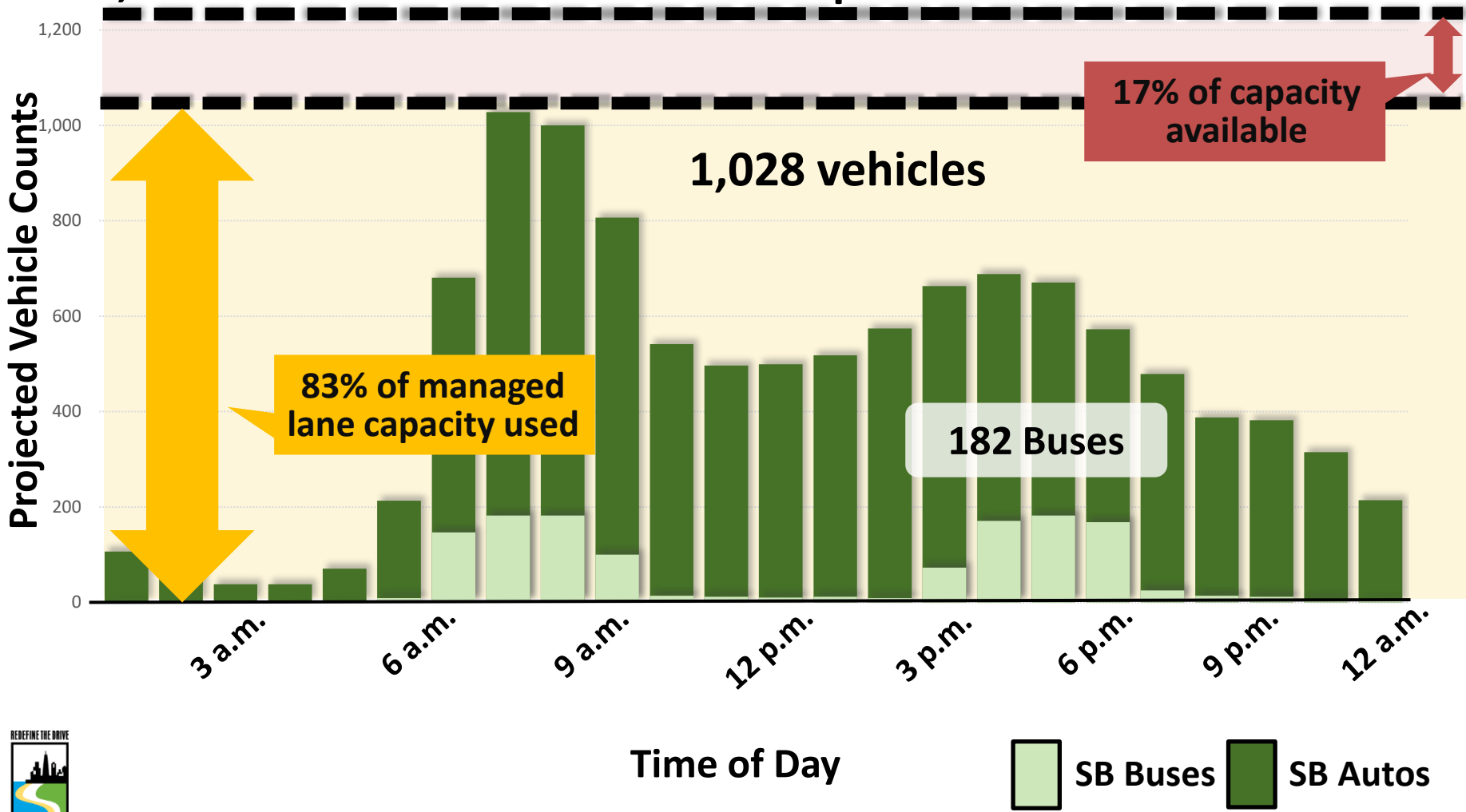
1,200 = Max Volume for free flow speed



# Available Capacity of Managed Lanes

**3+1 ML Alternative**

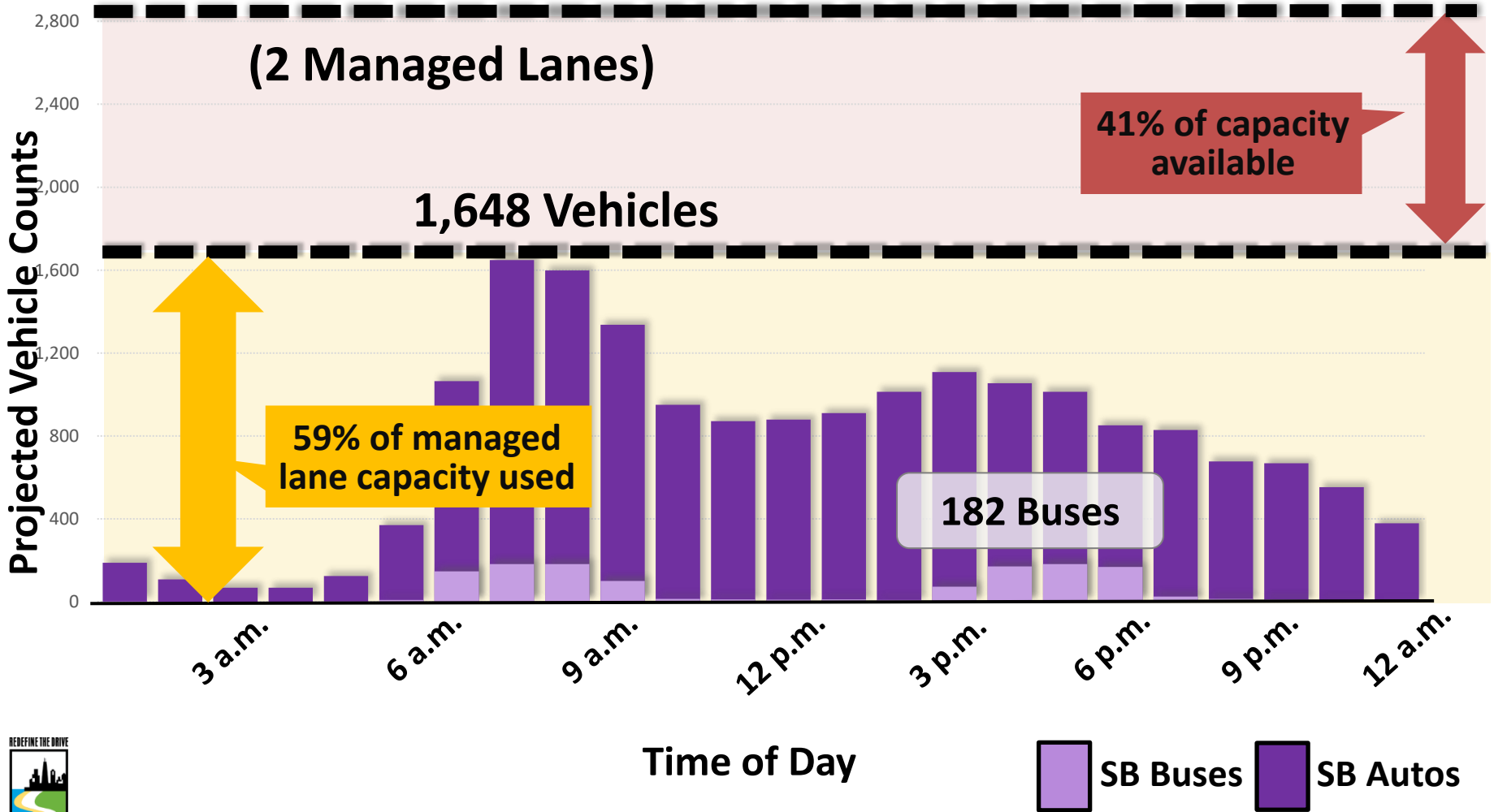
**1,200 = Max Volume for free flow speed**



# Available Capacity of Managed Lanes

**2+2 ML Alternative**

**2,800 = Max Volume for free flow speed**





# 10 MINUTE BREAK



# Response to Questions

# TF #10 Comments and Questions

## Key Themes

### Managed Lanes Alternatives evaluation criteria and results

*Can you provide more details on each of the criterion and provide both AM and PM results?*

*What are the traffic effects on the adjacent arterials?*

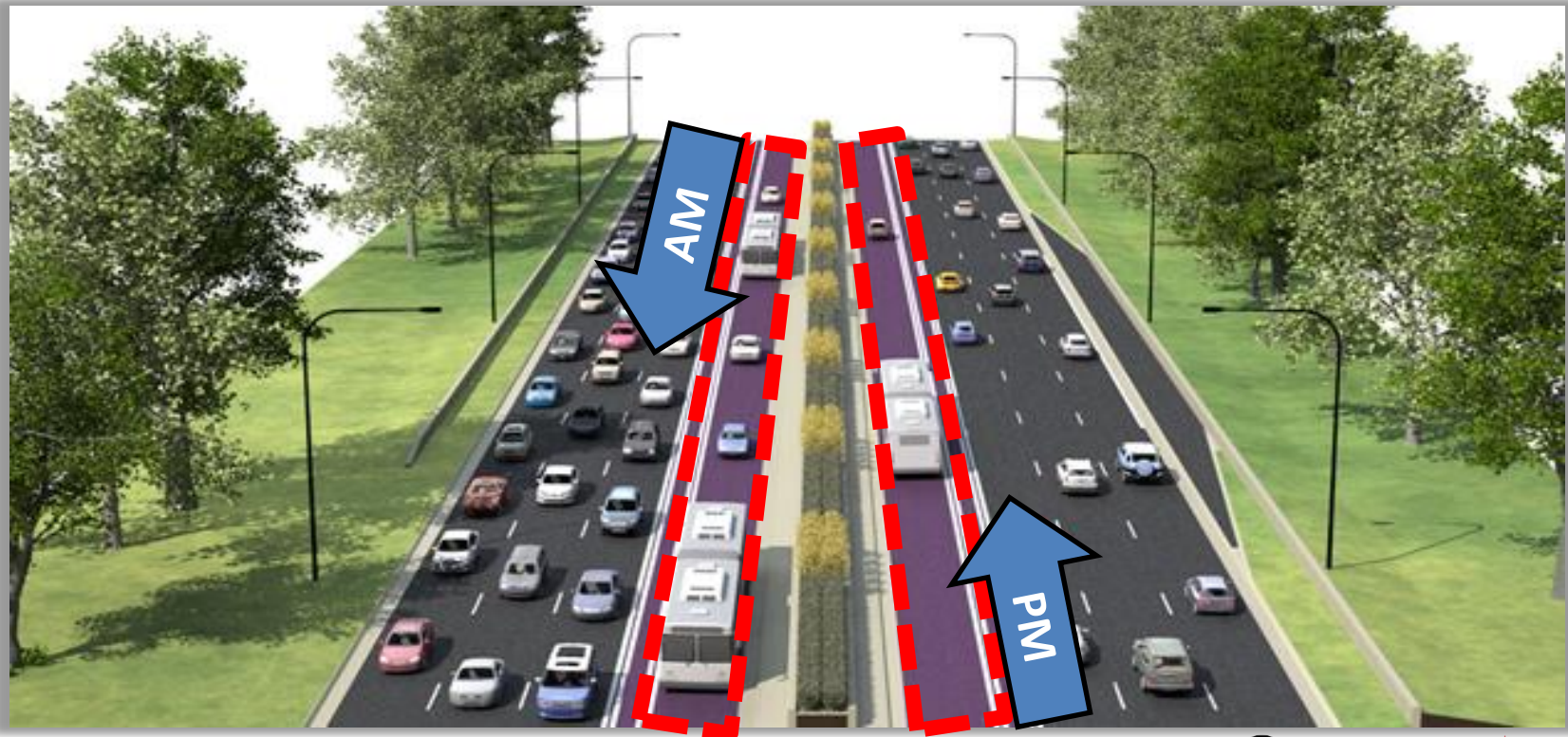
*Can you provide more detail on person throughput?*

*What is the balance between transit and auto evaluation criteria?*

# Transit Mobility

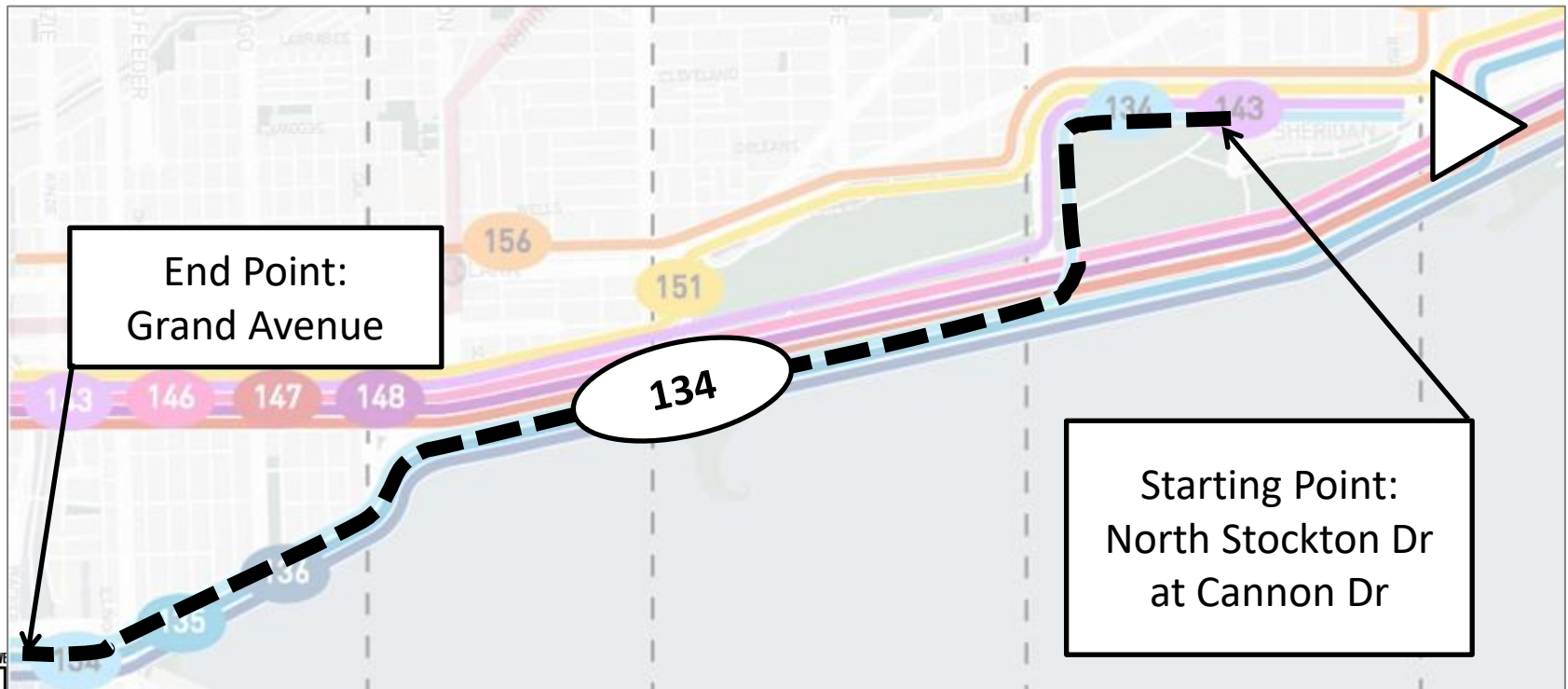
## Bus travel times measured within NLSD area:

- Along Outer Drive (portion of bus route within Managed Lane)
- Along Inner Drive (portion of bus route along arterial system)
- Southbound (A.M), Northbound (P.M.) – average and poor conditions



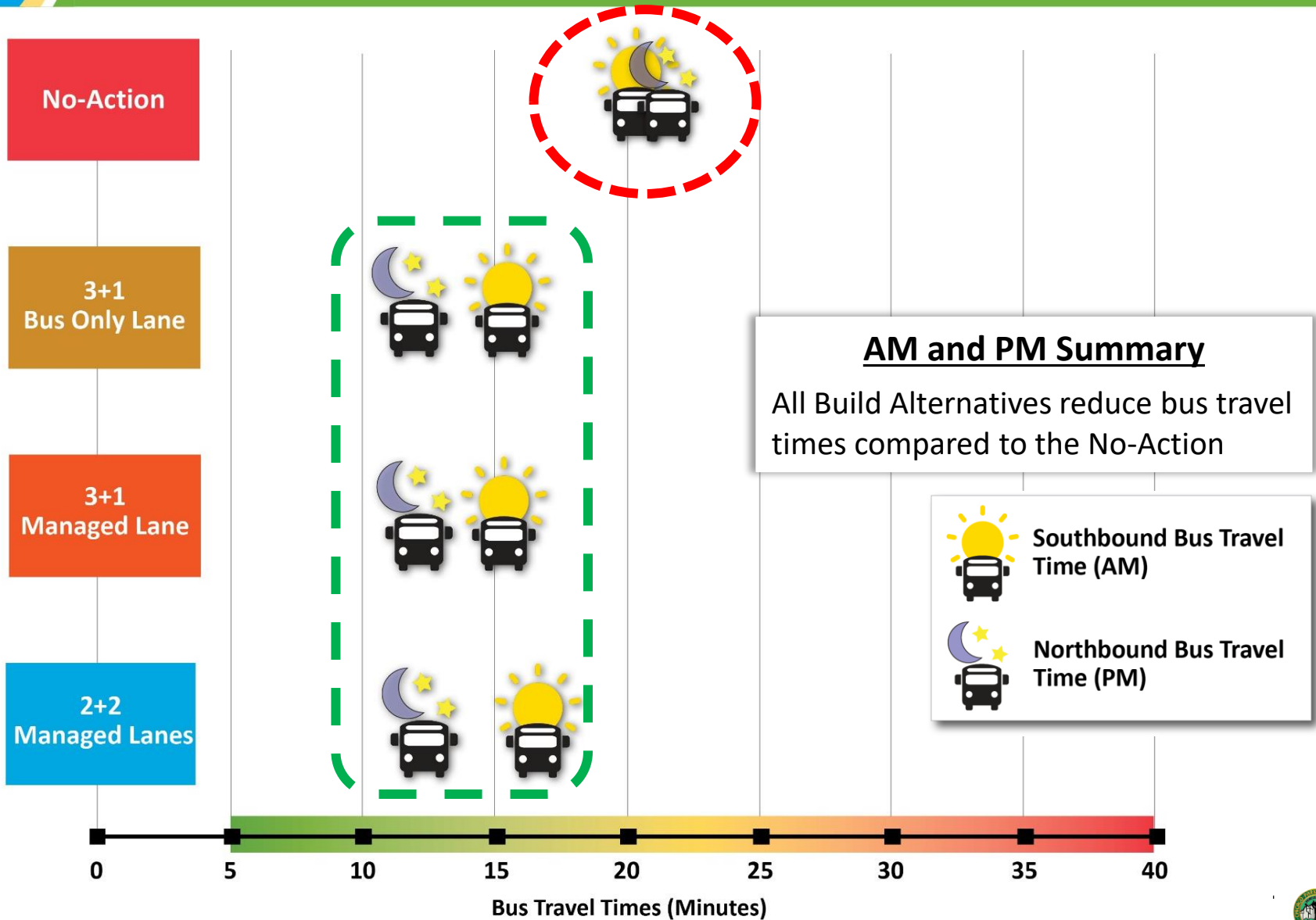
# Transit Mobility

- Combined average of all 7 CTA Express Bus routes (“composite”)
- Relative comparison of composite bus travel time
- Example: CTA Route 134 - Travel time measured from Stockton/Cannon intersection to Grand Ave (3.3 miles).

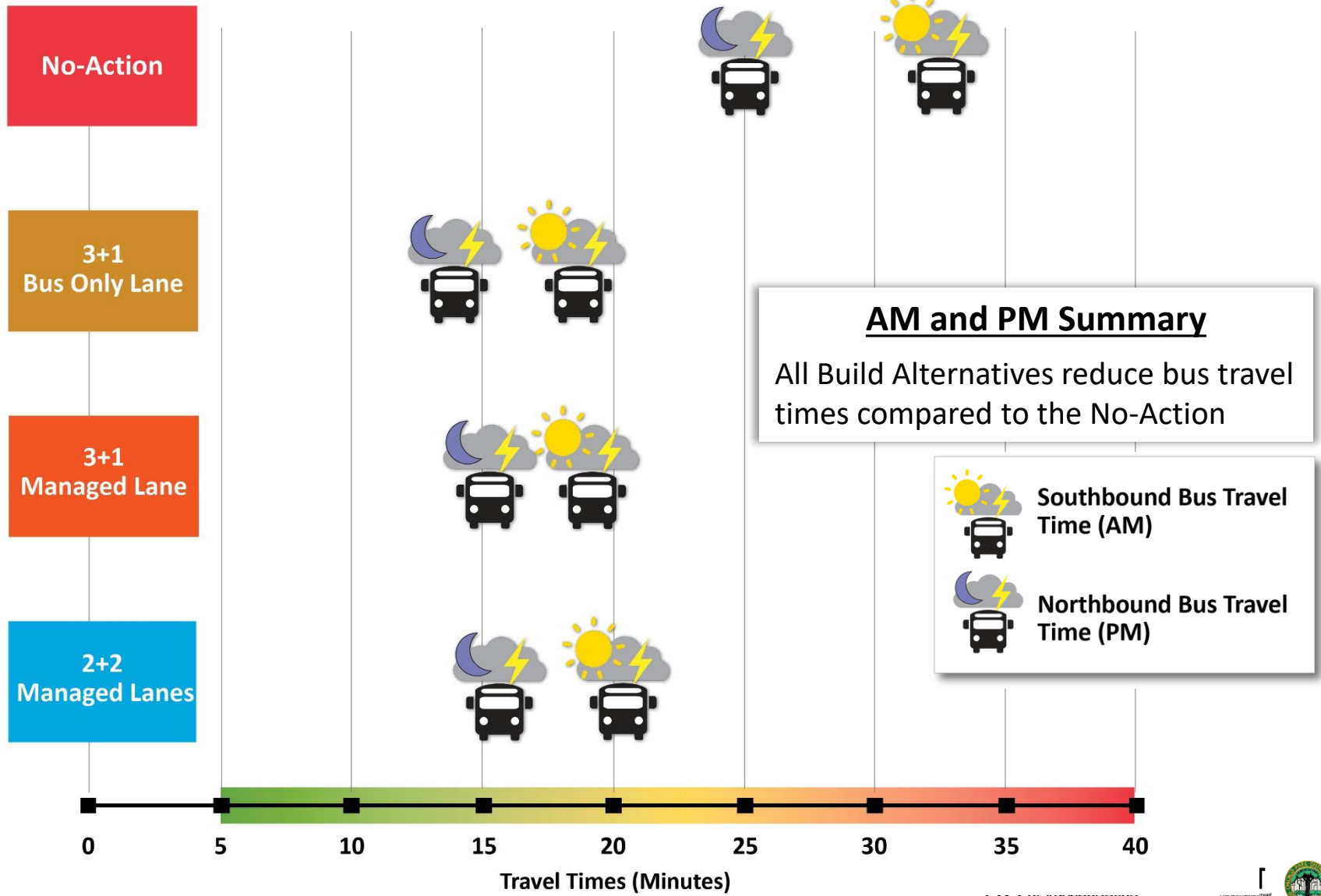




# Transit Mobility (Average Conditions) – AM & PM



# Transit Mobility (Poor Conditions) – AM & PM



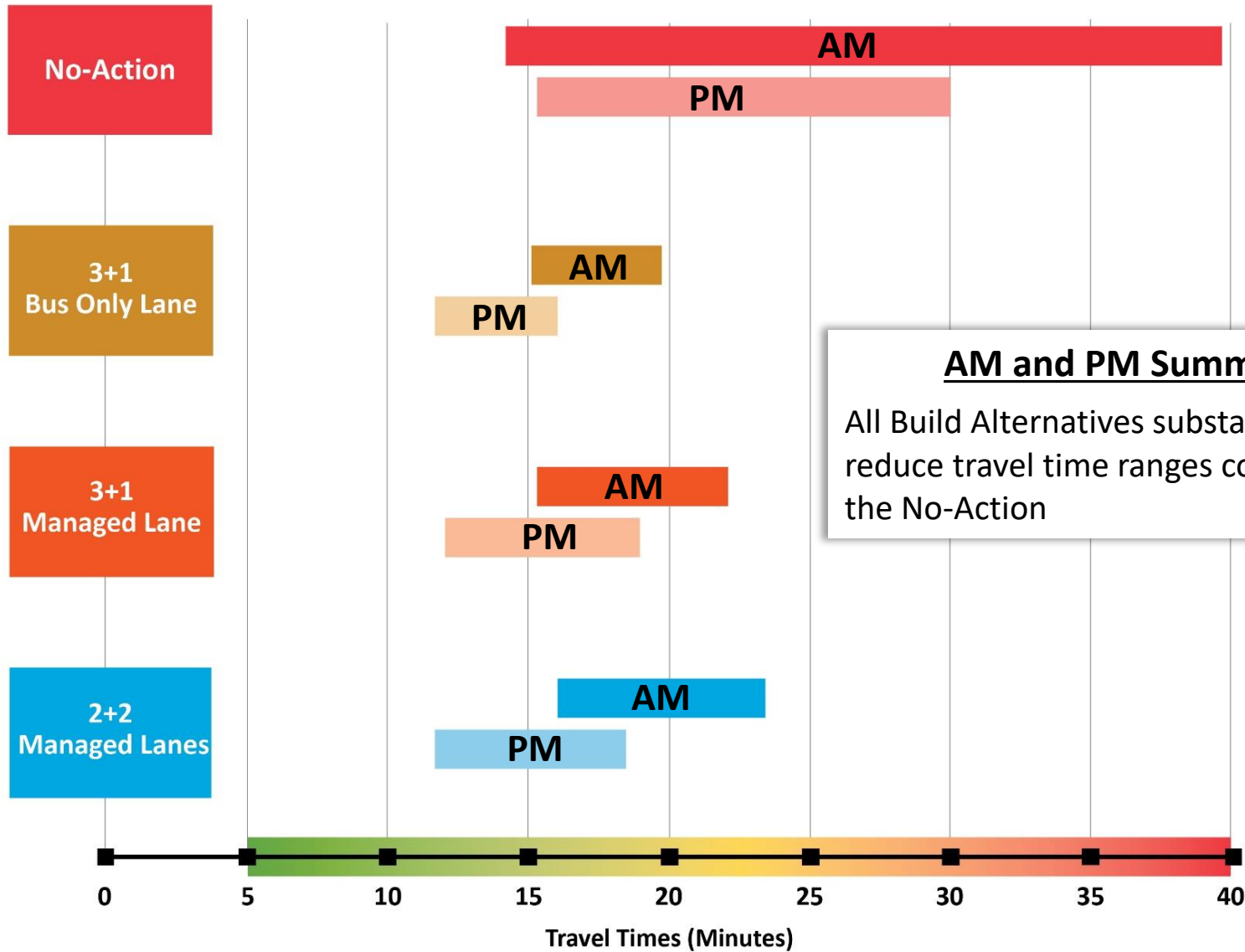
# Transit Reliability

**Transit reliability** is the range between the worst travel times under poor conditions and the best travel time under average conditions

<b>No Action Alternative A.M. Travel Time*</b>	<b>Best</b>	<b>14.6 min</b>
	<b>Worst</b>	<b>39.1 min</b>
	<b>Range: 24.5 min</b>	
<b>2+2 ML Alternative A.M. Travel Time*</b>	<b>Best</b>	<b>16.4 min</b>
	<b>Worst</b>	<b>23.6 min</b>
	<b>Range: 7.2 min 71% improvement</b>	

**\*Composite travel time for 7 CTA Express Bus Routes**

# Transit Reliability (All Conditions) – AM & PM

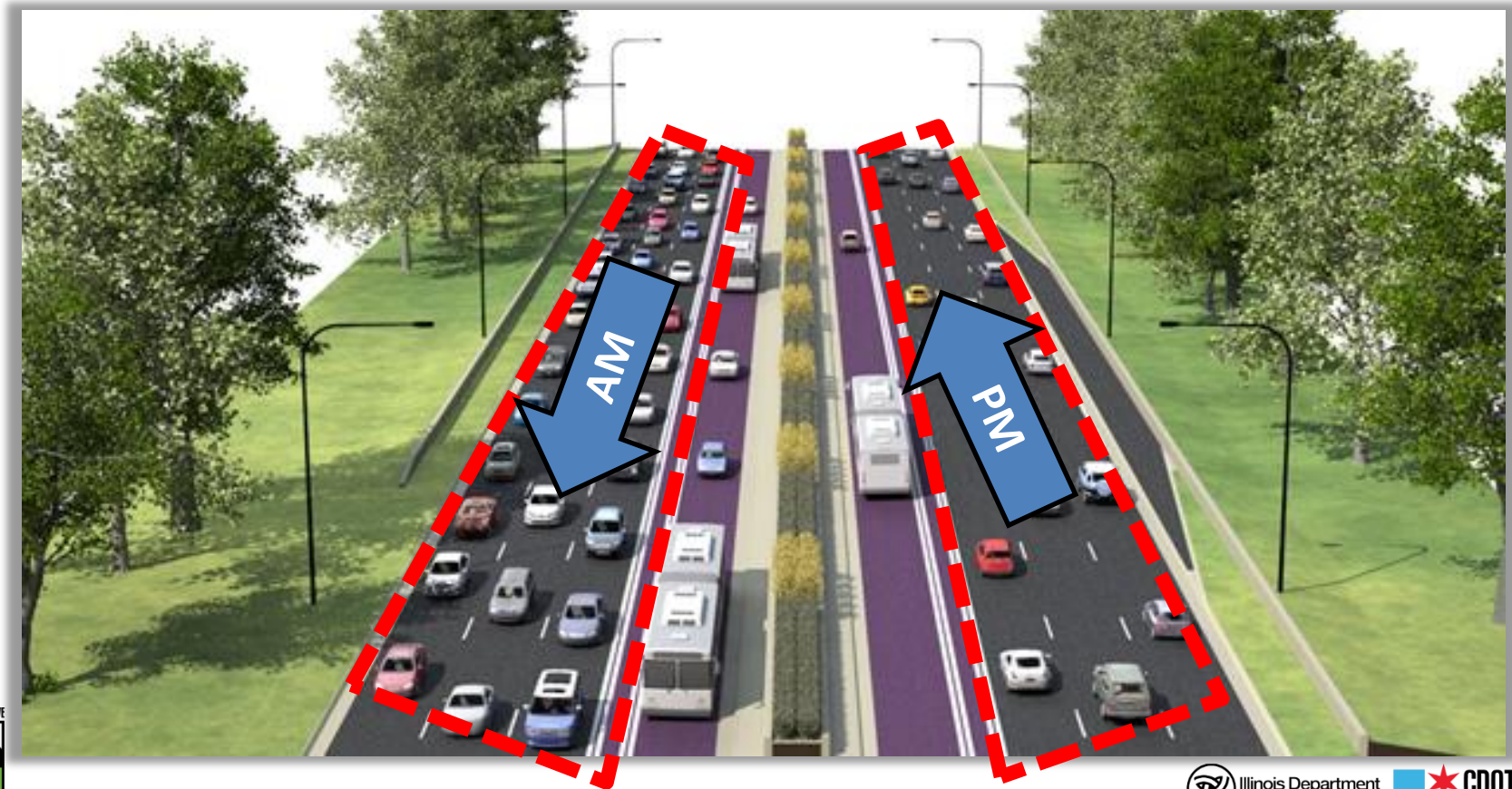


**AM and PM Summary**  
All Build Alternatives substantially reduce travel time ranges compared to the No-Action

# Vehicular Mobility (General Purpose Lanes)

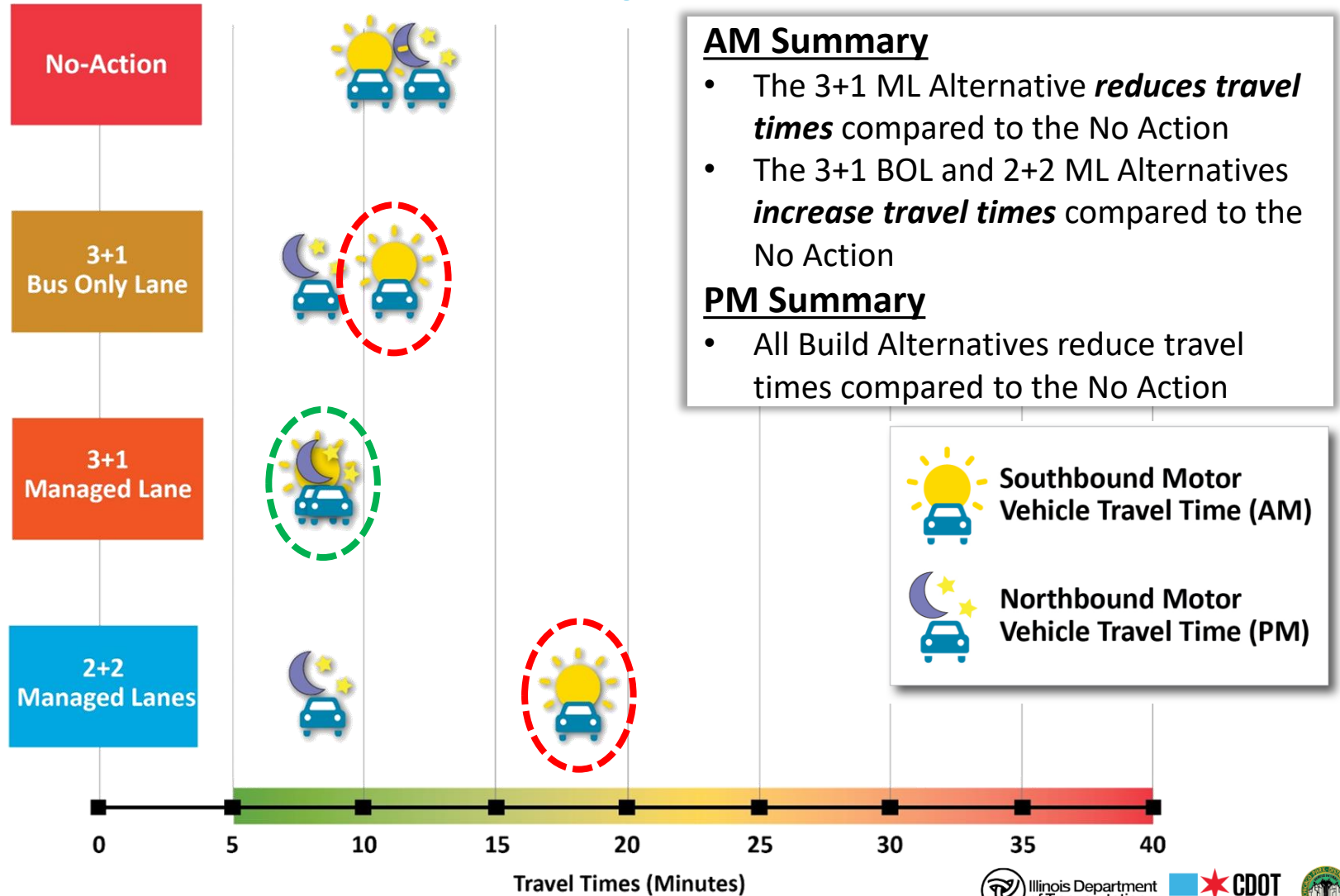
## Vehicular Travel Times Measured in the General-Purpose Lanes

- Southbound (A.M) – average and poor conditions
- Northbound (P.M.) – average and poor conditions



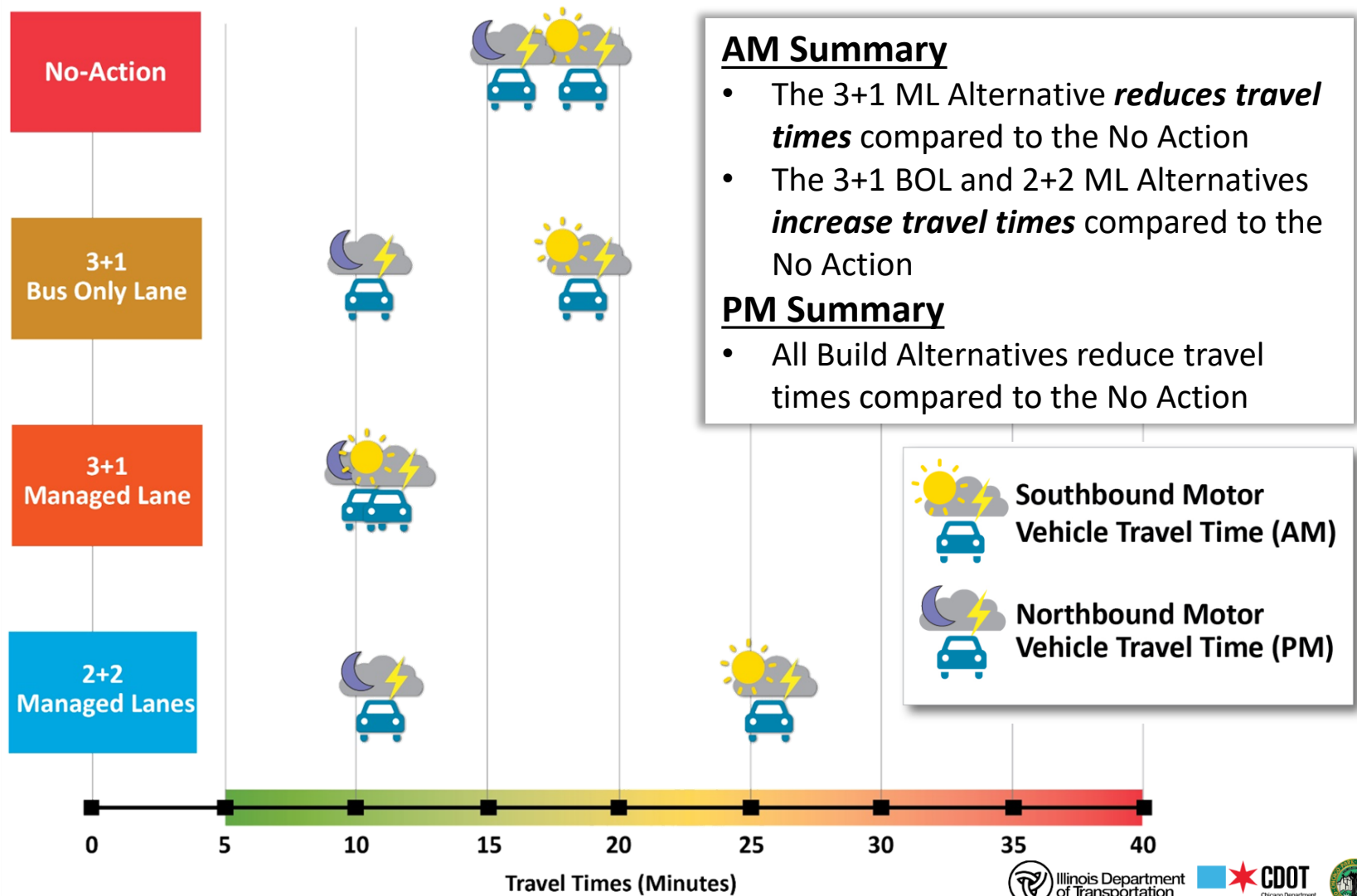
# Vehicular Mobility (Average Conditions) – AM & PM

## General Purpose Lane



# Vehicular Mobility (Poor Conditions) – AM & PM

## General Purpose Lane

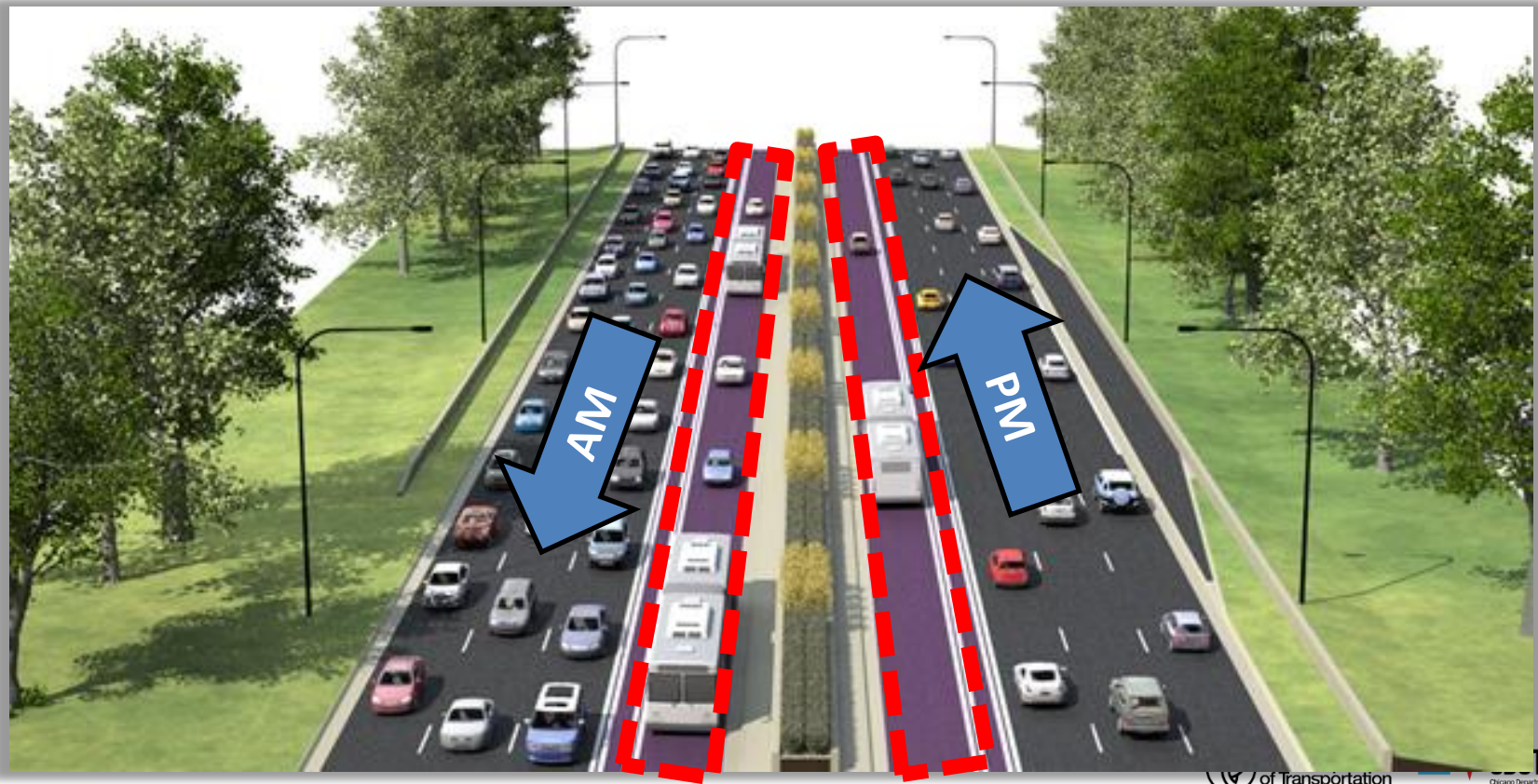


# Vehicular Mobility (Managed Lanes)

## Vehicular Travel Times Measured in the **Managed Lane**\*

- Southbound (A.M) – average and poor conditions
- Northbound (P.M.) – average and poor conditions

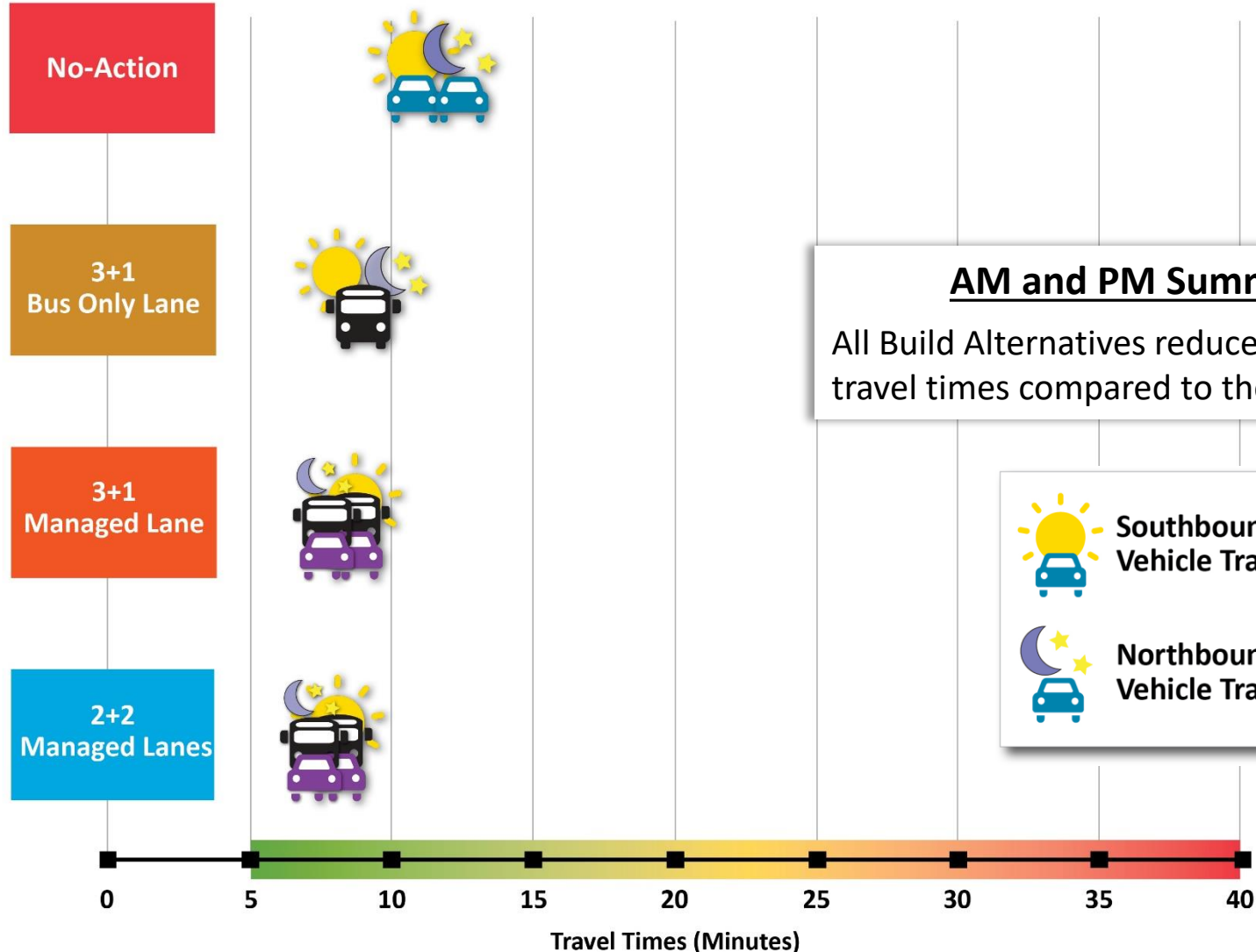
\**Bus travel times used for 3+1 BOL Alternative*





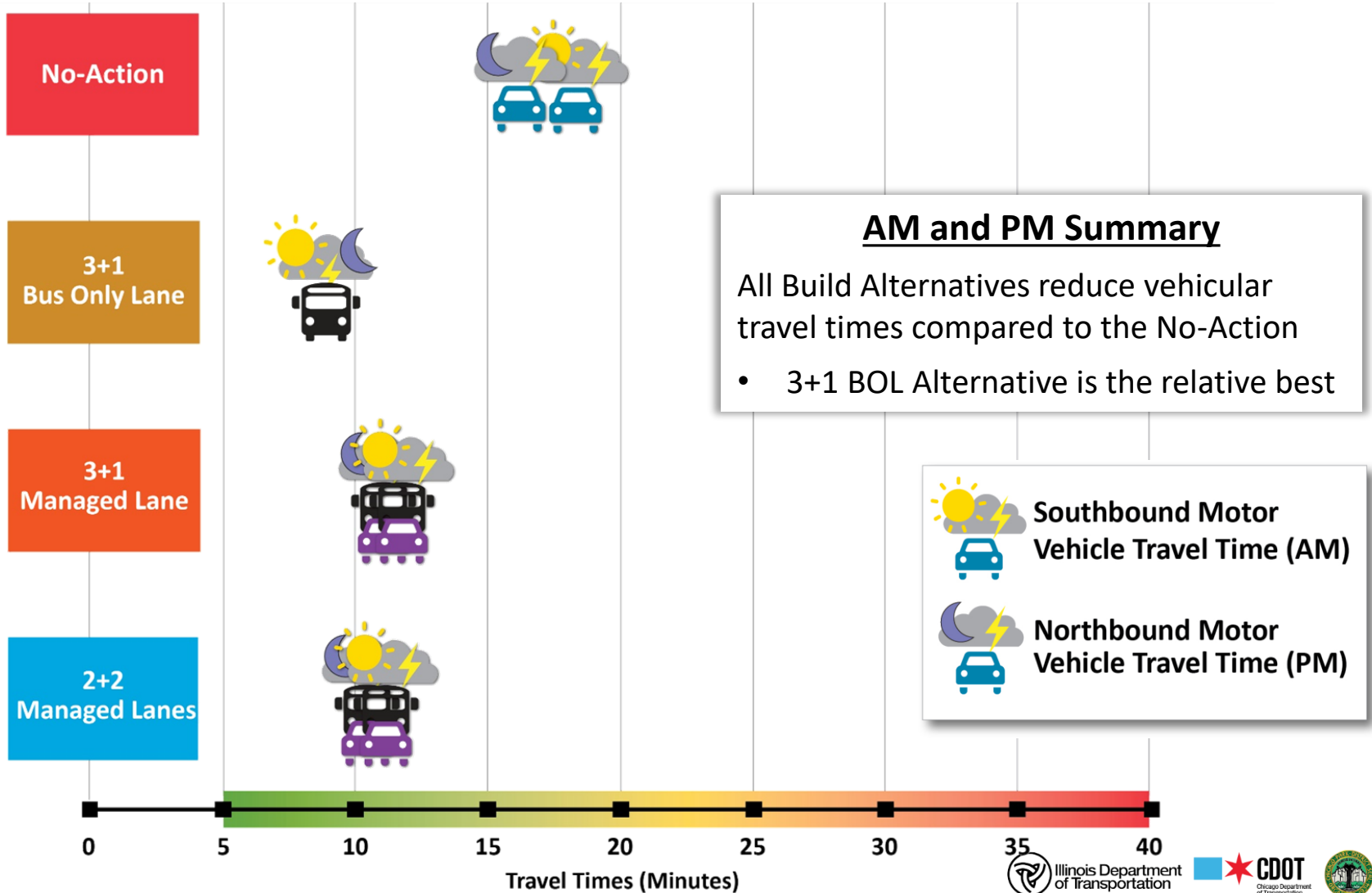
# Vehicular Mobility (Average Conditions) – AM & PM

## Managed Lane



# Vehicular Mobility (Poor Conditions) – AM & PM

## Managed Lane



# TF #10 Comments and Questions

## Key Themes

### Managed Lanes Alternatives evaluation criteria and results

*Can you provide more details on each of the criterion and provide both AM and PM results?*

***What are the traffic effects on the adjacent arterials?***

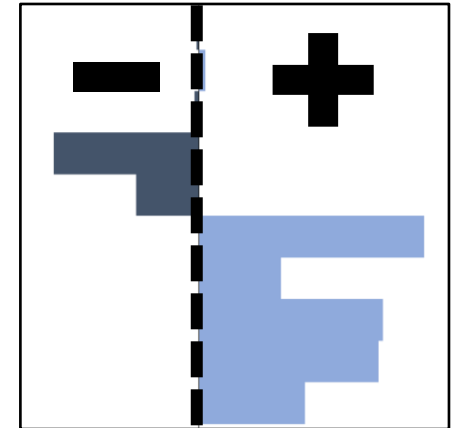
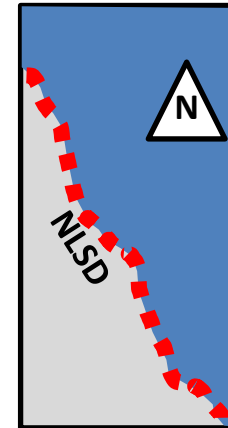
*Can you provide more detail on person throughput?*

*What is the balance between transit and auto evaluation criteria?*

# Traffic Volume Change

## Initial Analysis (TF #10)

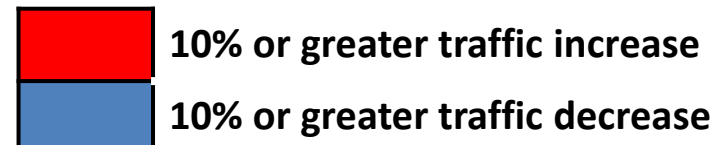
- Outer Drive, daily volume change
- North-south travel
- Relative least change from No Action favored



Exhibits from TF #10

## Supplemental Analysis (TF #11)

- Arterial system
- A.M. and P.M. Peak Hour
- North-south travel
- 10% or greater change identified
- Relative least change from No Action favored



# Traffic Volume Change (AM Peak)

3+1 BOL



3+1 ML



2+2 ML



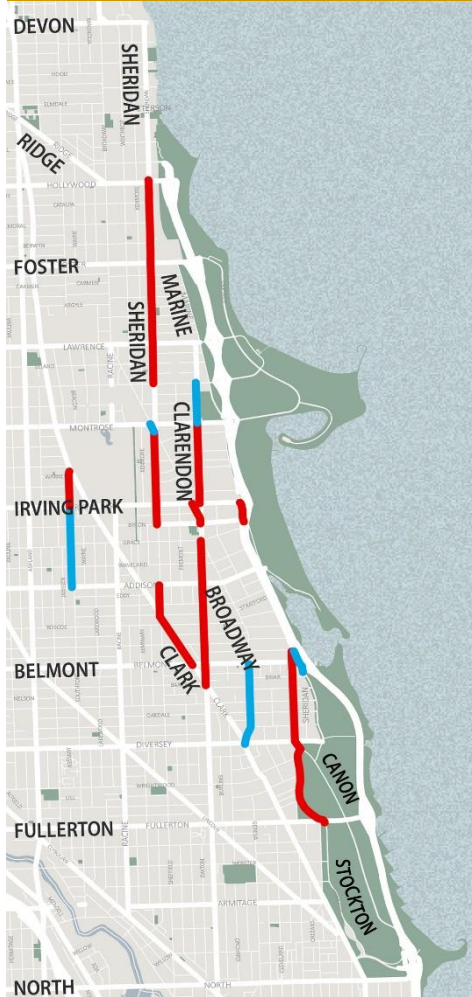
● 10% or greater traffic increase

● 10% or greater traffic decrease

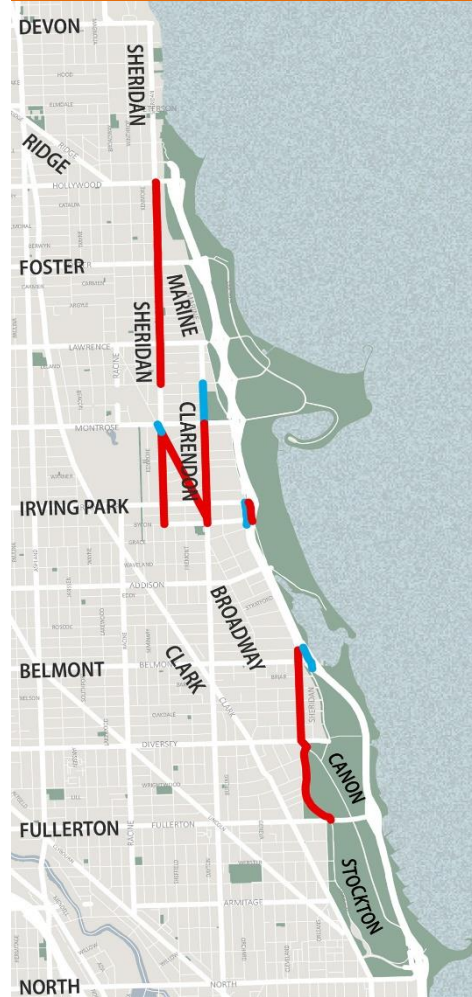


# Traffic Volume Change (PM Peak)

3+1 BOL



3+1 ML



2+2 ML



● 10% or greater traffic increase

● 10% or greater traffic decrease

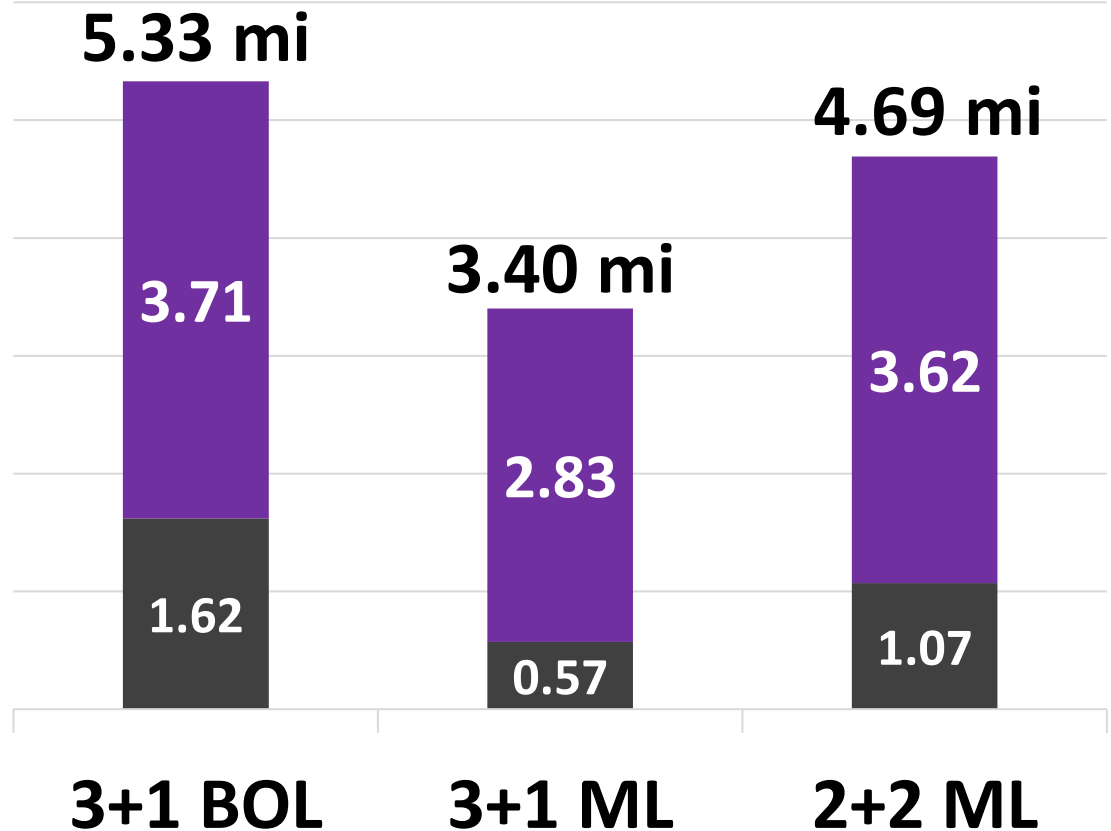


# Arterial Volume Change Summary

## Summary

- Net increase in arterial volume for both A.M. and P.M. Peaks
- The arterial network is most congested in A.M. peak, limits change in volume
- The arterial network is less congested in P.M. peak, allows more volume change

## Net Length with 10% or greater volume change



# TF #10 Comments and Questions

## Key Themes

### Managed Lanes Alternatives evaluation criteria and results

*Can you provide more details on each of the criterion and provide both AM and PM results?*

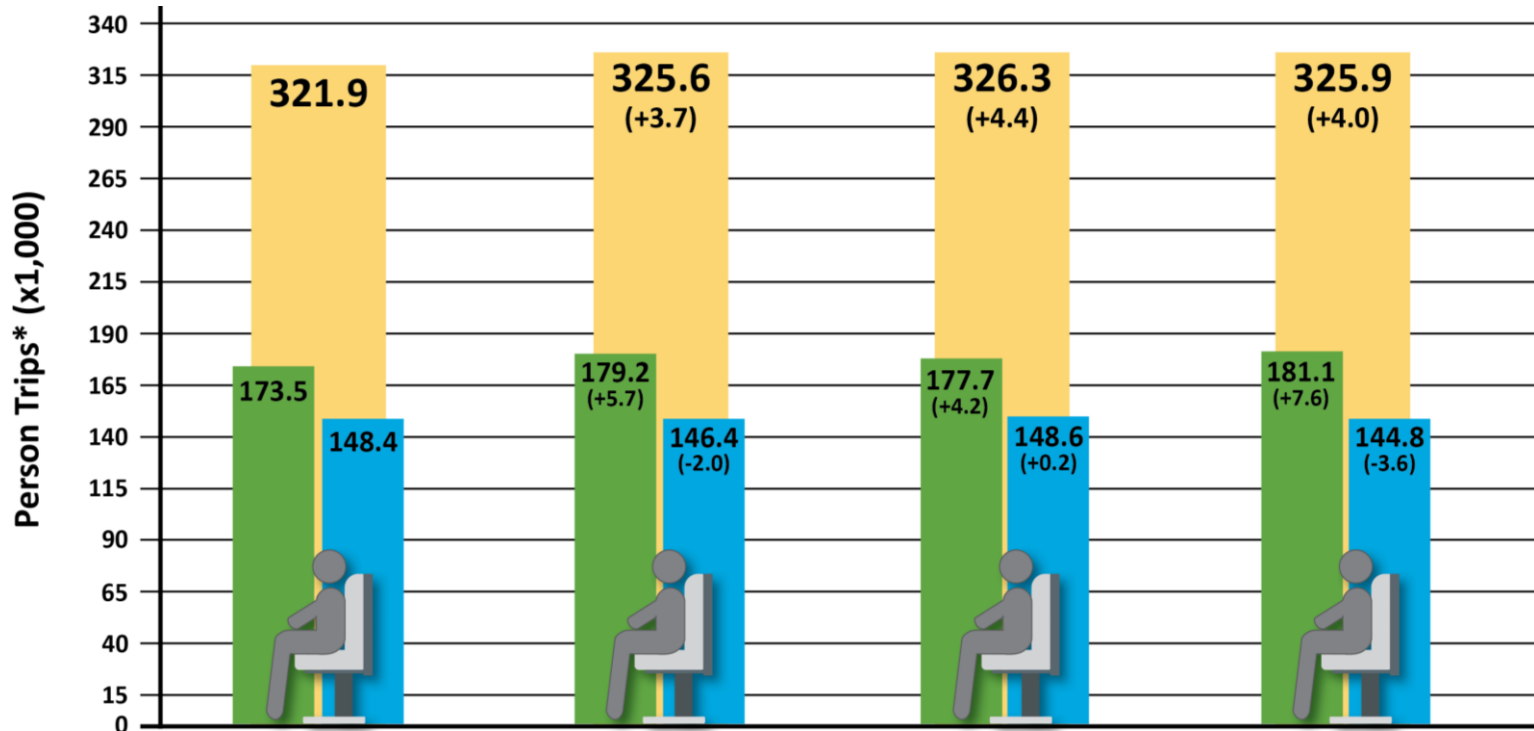
*What are the traffic effects on the adjacent arterials?*

***Can you provide more detail on person throughput?***

*What is the balance between transit and auto evaluation criteria?*



# Daily Person Throughput



## Legend

- Transit Trips
- Auto Trips
- Total Trips



## Summary

- Transit person trips increased over the No Action
- Auto person trips same or less than No Action
- All Managed Lane Alternatives increase person throughput

# TF #10 Comments and Questions

## Key Themes

### Managed Lanes Alternatives evaluation criteria and results














*Can you provide more details on each of the criterion and provide both AM and PM results?*

*What are the traffic effects on the adjacent arterials?*

*Can you provide more detail on person throughput?*

***What is the balance between transit and auto evaluation criteria?***

# Managed Lanes Evaluation Criteria

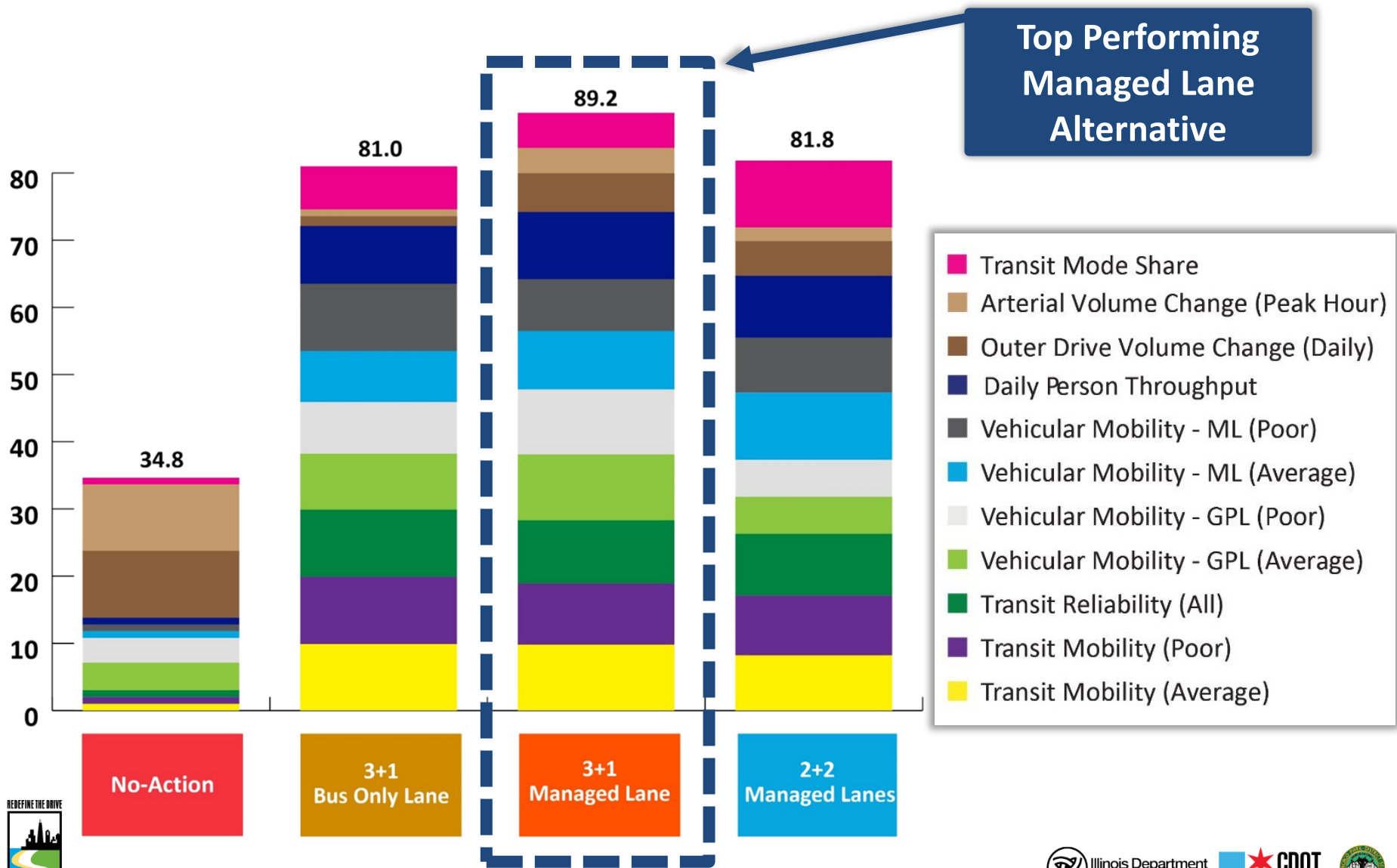
Level 2 Managed Lanes Screening Criteria	Transit	Auto	Transit & Auto Related
Transit Mobility (Average)			
Transit Mobility (Poor)			
Transit Reliability (All)			
Transit Mode Share			
Vehicular Mobility (Average) – GPL			
Vehicular Mobility (Poor) – GPL			
Vehicular Mobility (Average) – GPL			 
Vehicular Mobility (Poor) – GPL			 
Daily Permitted			 
Outer Drive (Daily)			
Arterial Volume Change (Peak Hour)			
<b>Total Criteria</b>	<b>4</b>	<b>4</b>	<b>3</b>

**A balance of vehicular and transit evaluation factors was used**

# Updated Ratio Scoring

Evaluation Criteria	No-Action	3+1 Bus Only Lane	3+1 Managed Lane	2+2 Managed Lanes
Transit Mobility (Average)	1.0	9.9	9.8	8.2
Transit Mobility (Poor)	1.0	10.0	9.1	8.9
Transit Reliability (All)	1.0	10.0	9.4	9.2
Vehicular Mobility (Average) – GPL	4.1	8.3	9.8	5.5
Vehicular Mobility (Poor) – GPL	3.7	7.7	9.7	5.5
Vehicular Mobility (Average) – ML	1.0	7.6	8.7	10.0
Vehicular Mobility (Poor) – ML	1.0	10.0	7.7	8.2
Daily Person Throughput	1.0	8.6	10.0	9.2
Outer Drive Volume Change (Daily)	10.0	1.5	5.7	5.1
Arterial Volume Change (Peak Hour)	10.0	1.0	4.3	2.1
Transit Mode Share	1.0	6.4	5.2	10.0
<b>TOTAL</b>	<b>34.8</b>	<b>81.0</b>	<b>89.2</b>	<b>81.8</b>

# Managed Lane – Composite Score



# Managed Lane Evaluation Summary

## The 3+1 Managed Lane Alternative:

- Improves bus mobility and reliability
- Increases transit mode share
- Increases person throughput



3+1 ML Alternative

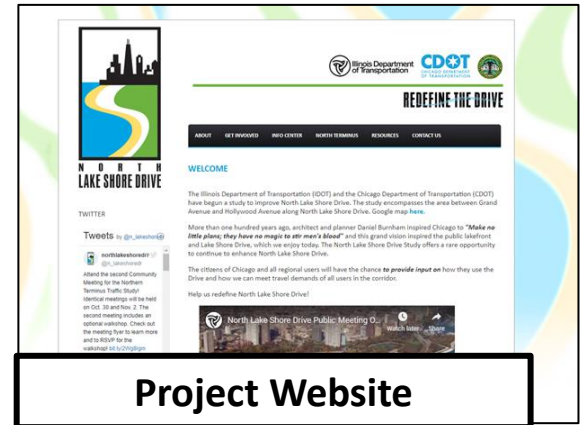
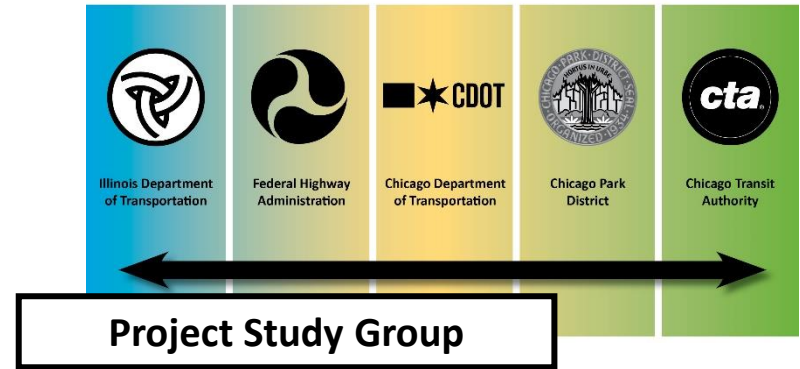
## ***And, the 3+1 Managed Lane Alternative:***

- Improves vehicular mobility
  - 3+1 BOL and 2+2 ML Alternatives *increase* congestion
- Efficient use of Managed Lane capacity
- Relative least volume change
- Forward compatible with the 3+1 BOL and 2+2 ML Alternatives
- **Satisfies the project Purpose and Need**

# Stakeholder Involvement

## Level 2 Screening

- Task Force Meetings
- Project Study Group
- Community Meetings
- Public Meetings
- Project Website



Public Meetings

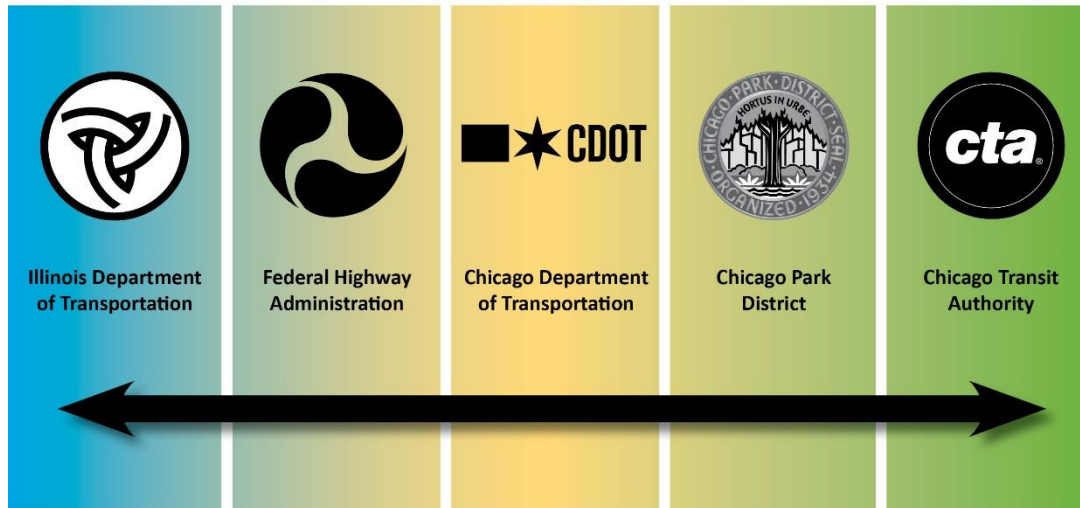


Community Meetings



Task Force Meetings

# Project Study Group (PSG)



## Project Study Group Recap – Managed Lane Alternatives Evaluation

- Provided alternatives development and evaluation guidance.
- Concurred with the Major Flaw review.
- Supported and concurred with the technical analysis.
- CTA does not fully concur and recommends that the 3+1 BOL Alternative also be carried forward for further evaluation and discussion.
- Many perspectives are considered in the evaluation process, which must satisfy NEPA Requirements







# Recommended Alternatives to be Carried Forward (ATBCF)

# Level 2 Screening

RANGE OF ALTERNATIVES CATEGORY	RANGE OF ALTERNATIVES	RECOMMENDED FOR DISMISSAL (LEVEL 2 SCREENING)	RECOMMENDED TO BE CARRIED FORWARD
No-Action	No-Action	N/A	N/A
Context Tailored Treatments	Corridor Modernization		Top Performing CTT with Transit Advantages
	Compressed Roadway		
	Frontage Drive		
Transitways	Transit Advantages at Junctions		Dedicated Transitway – Left
	Bus on Shoulder – Right	Bus on Shoulder – Right	
	Dedicated Transitway – Left		
	Dedicated Transitway – Off Alignment	Dedicated Transitway – Off Alignment	
Managed Lanes	3+1 Bus Only Lane		
	3+1 Managed Lane		
	2+2 Managed Lanes		
	3+2 Reversible Managed Lanes	3+2 Reversible Managed Lanes	
	4+1 Contraflow Bus Only Lane	4+1 Contraflow Bus Only Lane	

# Level 2 Screening

RANGE OF ALTERNATIVES CATEGORY	RANGE OF ALTERNATIVES	RECOMMENDED FOR DISMISSAL (LEVEL 2 SCREENING) 	RECOMMENDED TO BE CARRIED FORWARD 
No-Action	No-Action	N/A	N/A
Context Tailored Treatments	Corridor Modernization		Top Performing CTT with Transit Advantages
	Compressed Roadway		
	Frontage Drive		
Transitways	Transit Advantages at Junctions		
	Bus on Shoulder – Right	Bus on Shoulder – Right	
	Dedicated Transitway – Left		Dedicated Transitway – Left
	Dedicated Transitway – Off Alignment	Dedicated Transitway – Off Alignment	
Managed Lanes	3+1 Bus Only Lane	3+1 Bus Only Lane	
	3+1 Managed Lane		3+1 Managed Lane
	2+2 Managed Lanes	2+2 Managed Lanes	
	3+2 Reversible Managed Lanes	3+2 Reversible Managed Lanes	
	4+1 Contraflow Bus Only Lane	4+1 Contraflow Bus Only Lane	

# Alternatives to be Carried Forward

## Context Tailored Treatment with Transit Advantages

- Baseline improvements
- Spot transit improvements (queue jump lanes, bus priority Signals)



## Dedicated Transitway – Left

- Baseline improvements
- Added space for transit (bus only lane)



## 3+1 Managed Lane

- Baseline improvements
- Converted space (shared lane for transit and some autos)





# Public Meeting #4 Preview

# Public Meeting #4

## Public Meeting #4 Preview

- Last Public Meeting (#3) held in July 2017
- Public Meeting #4 to take place in summer 2020
- Content from Task Force #7-11 to be covered
- Tentative meeting format:
  - Interactive website and survey
  - Small group discussions

# Public Meeting #4

## Meeting Topics

- Level 2 Screening Review (TF #7-11)
- Alternatives to be Carried Forward (ATBCF)
  - Context Tailored Treatments (TF #8)
  - Transitways (TF #7, TF #9)
  - Managed Lanes (TF #7, TF #10, TF #11)
- Lakefront Trail and Park Access Improvements (TF #8)
- Shoreline Protection (TF #8)





# Level 3 Screening Preview



# Level 3 Screening – Evaluation Criteria (Preliminary)

## Purpose and Need Factors\*

- Transit mobility and reliability
- Vehicular mobility and reliability
- Network volume change
- Person throughput
- Safety

## Social Factors

- Population and employment effects
- Displacements
- Equity

## Economic Factors

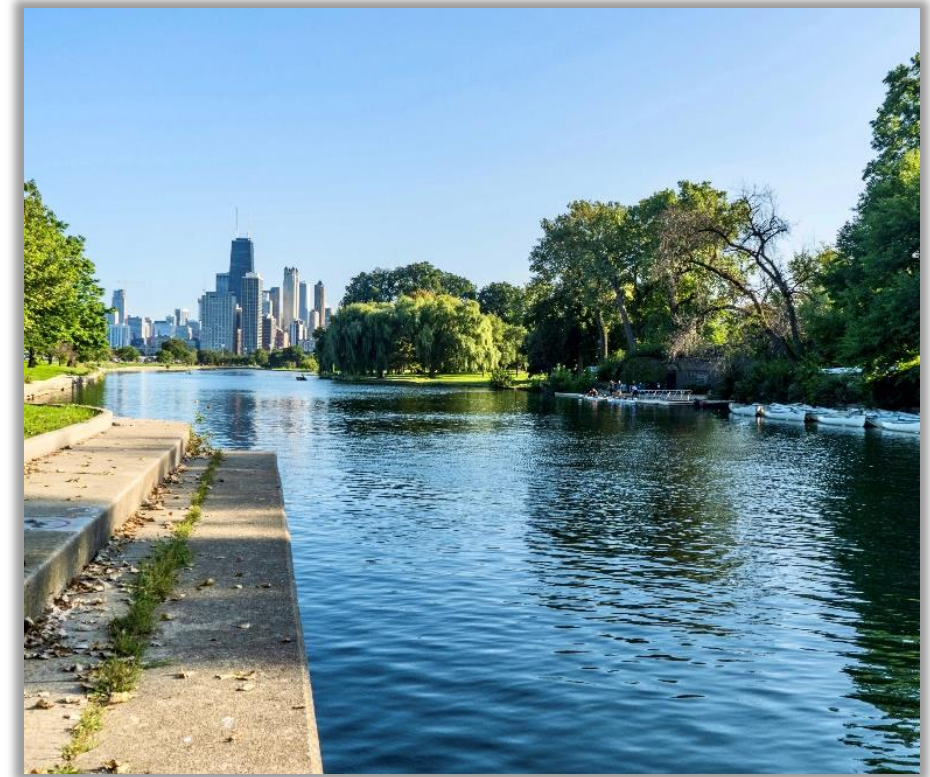
- Construction cost
- Revenue potential
- Productivity

***\*Park and Transit Access – likely to have similar benefits***



## Environmental Factors

- Climate Change
- Natural resources
- T&E Species
- Historic Structures/Section 106
- Park facilities/Section 4(f)
- Change in paved surface and green space
- Environmental Justice (EJ)
- Surface water quality
- Waters of the US
- Visual effects
- Traffic noise
- Air quality
- Indirect and cumulative effects



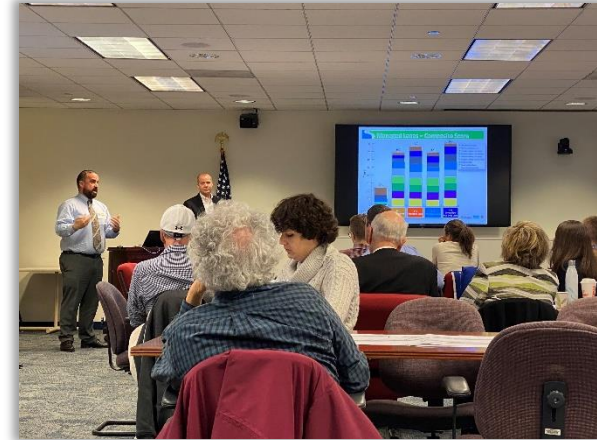


# Discussion/Next Steps

# NLSD Phase I Study Next Steps

- Review feedback provided from the Task Force and refine alternative designs
- Preparation for Public Meeting #4: Summer 2020
- Begin Level 3 Screening

***Please provide comments by June 25 to be included as part of the Task Force Meeting #11 record.***





# 5 MINUTE BREAK



# Response to Questions



[www.northlakeshoredrive.org](http://www.northlakeshoredrive.org)