US 29 South Corridor Advisory Committee Meeting #9

Montgomery County
RAPID TRANSIT
US 29

Silver Spring Civic Building

Silver Spring, Maryland

January 31, 2017

6:30 p.m. to 9:00 p.m.

Maryland Department of Transportation

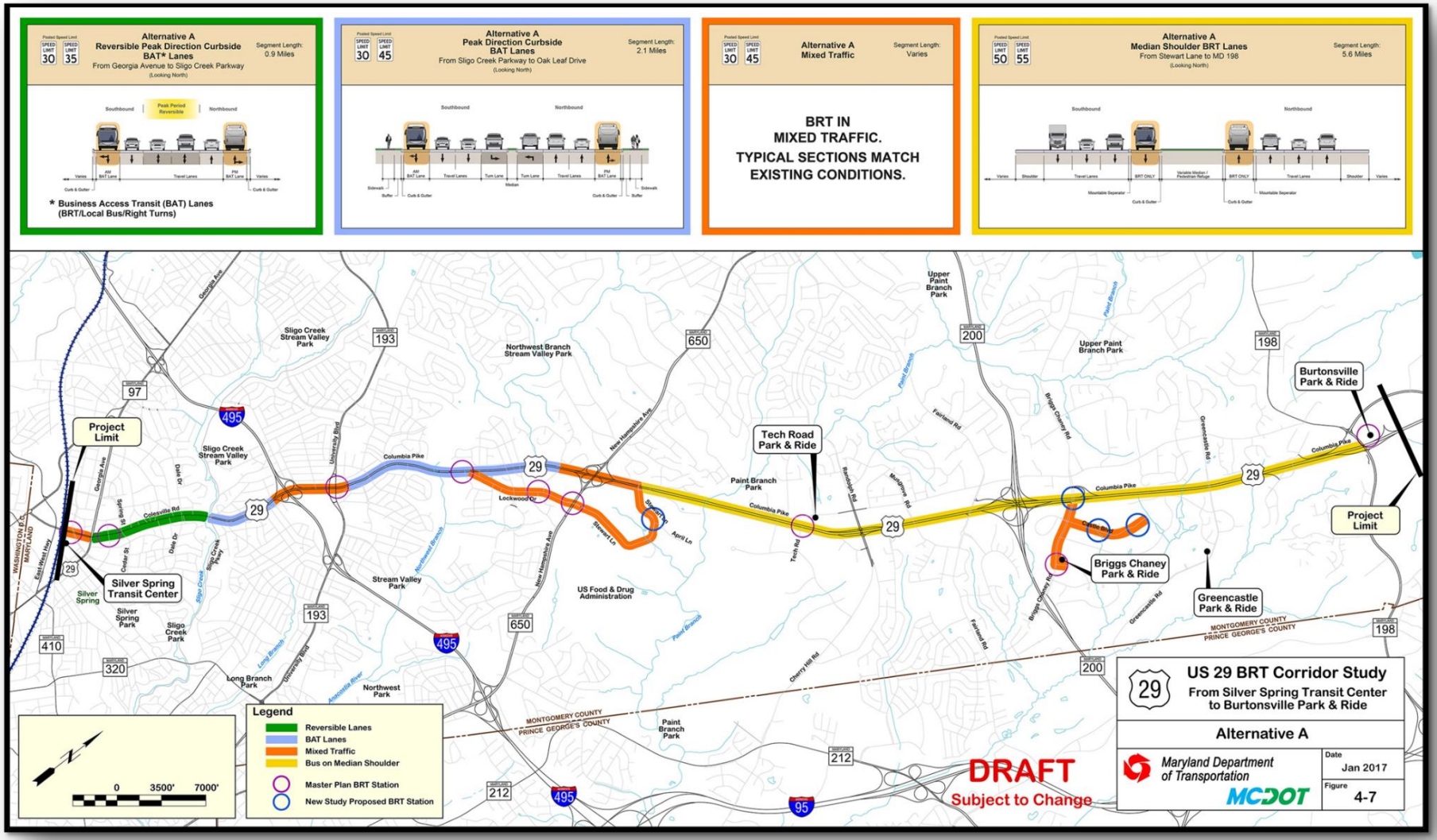
MCDOT
Montgomery County Department of Transportation

Welcome

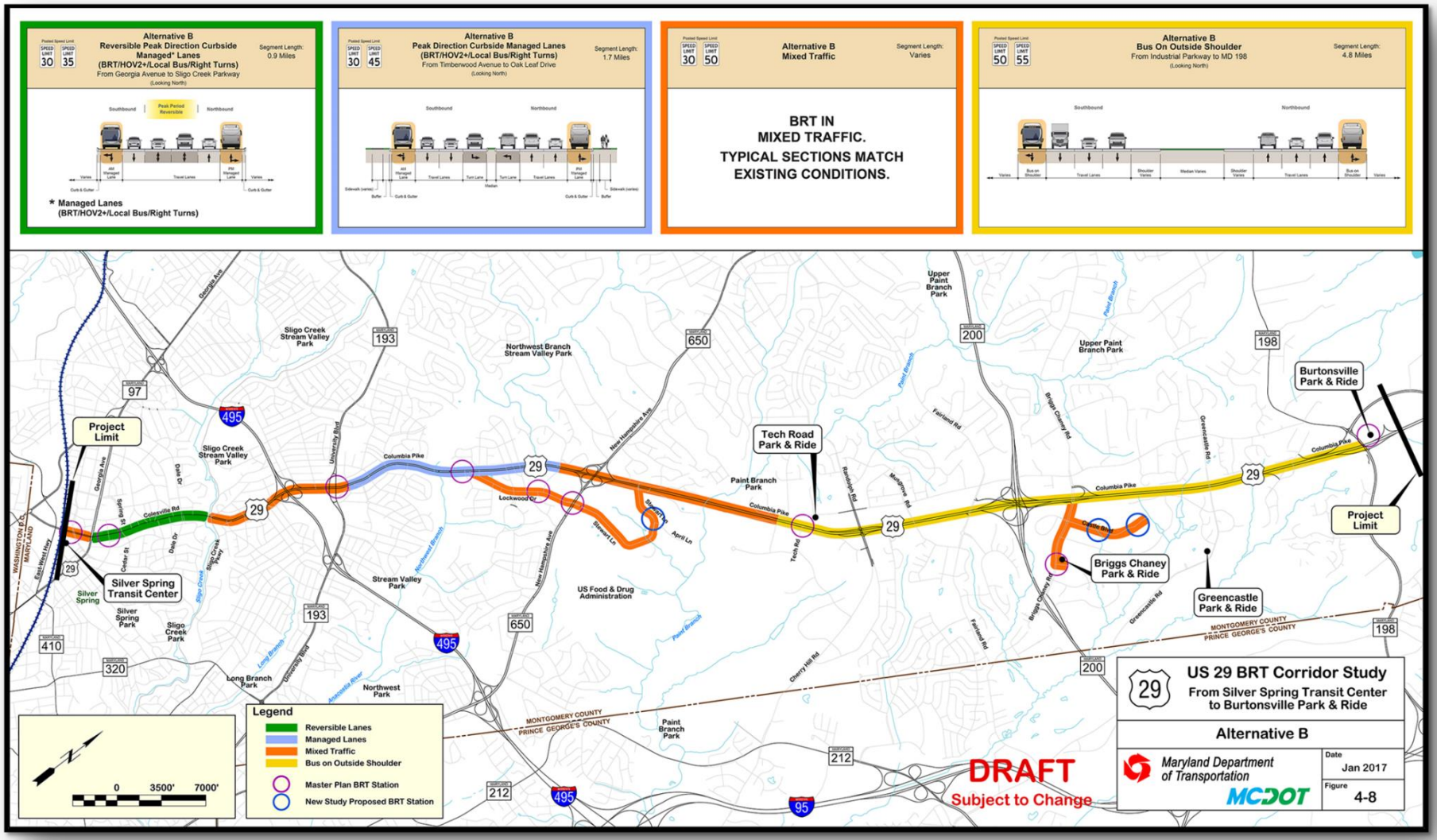
Agenda

- Welcome and Meeting Overview
- 2040 Traffic Analysis and Cost Results
- 2040 Draft Corridor Study Report Review and Comment
- MCDOT 2020 Project
- Discussions with Project Staff

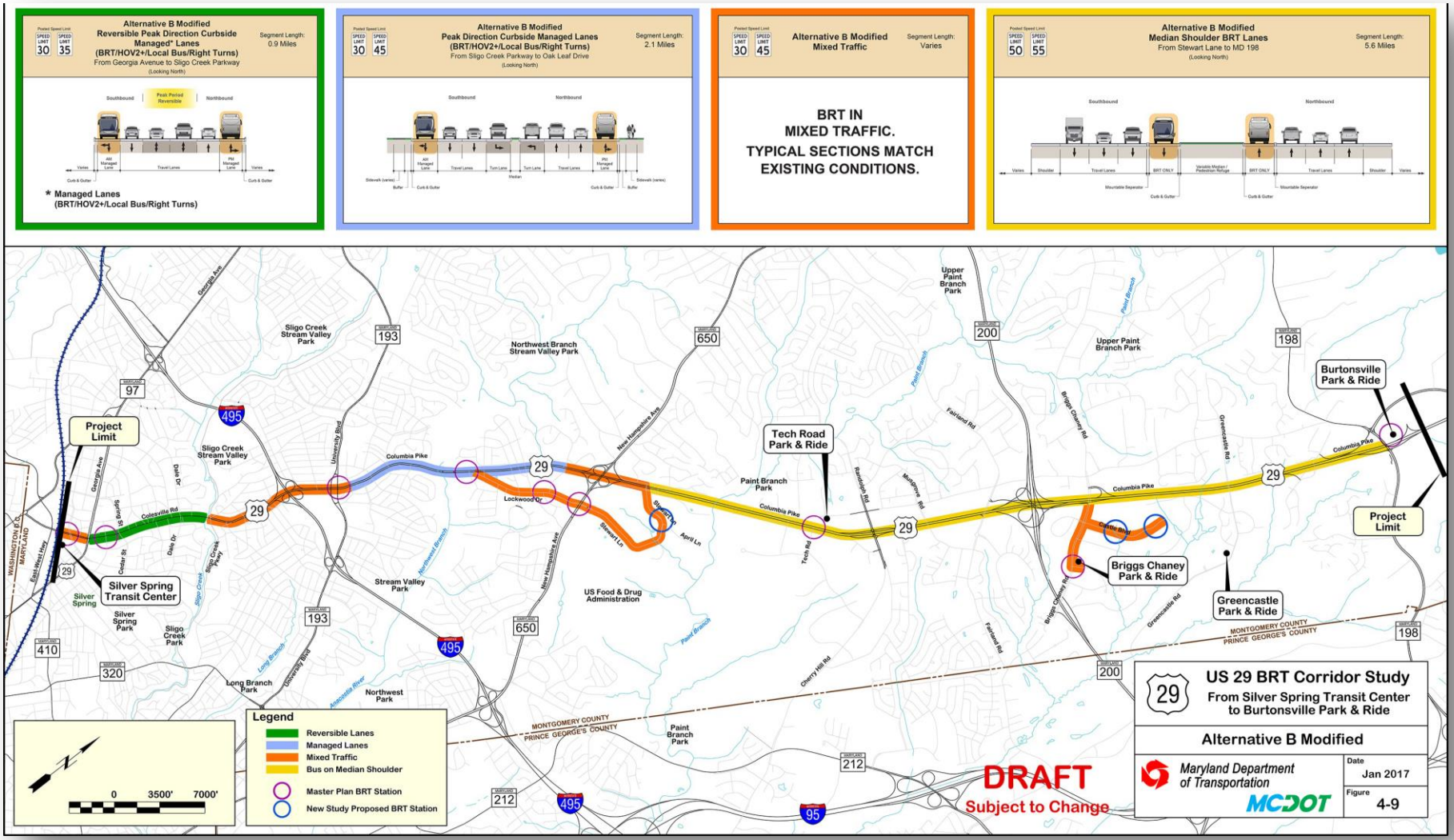
Alternative A



Alternative B

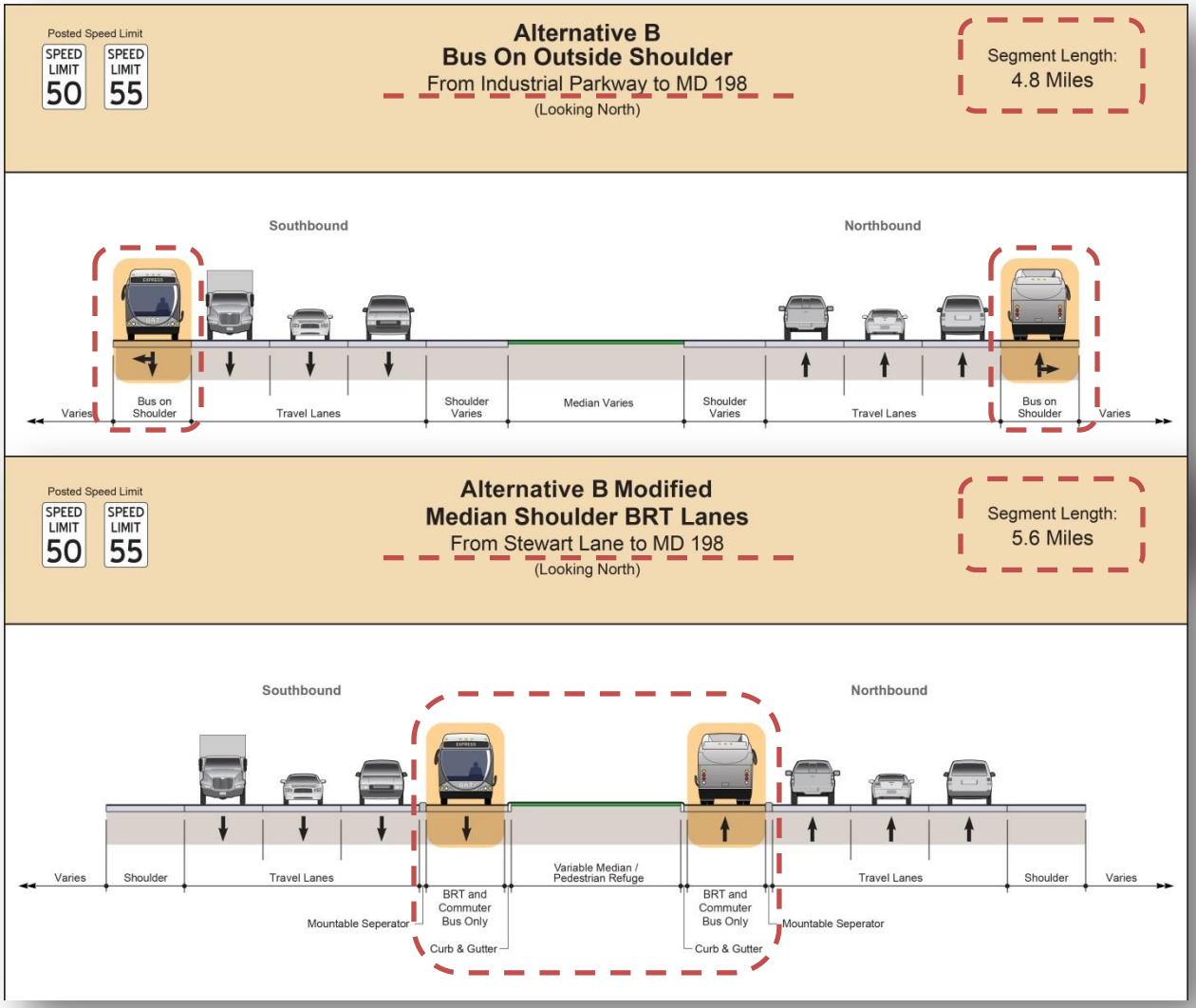


Alternative B Modified



Alternative B and B Modified

A Comparison of Subtle Differences



Total Daily Boardings and Travel Demand

Total Daily Transit Boardings				Total Daily BRT Boardings			
No-Build	Alt A	Alt B	Alt B Mod	No-Build	Alt A	Alt B	Alt B Mod
28,500	34,900	33,700	34,400	-	18,100	16,400	17,300

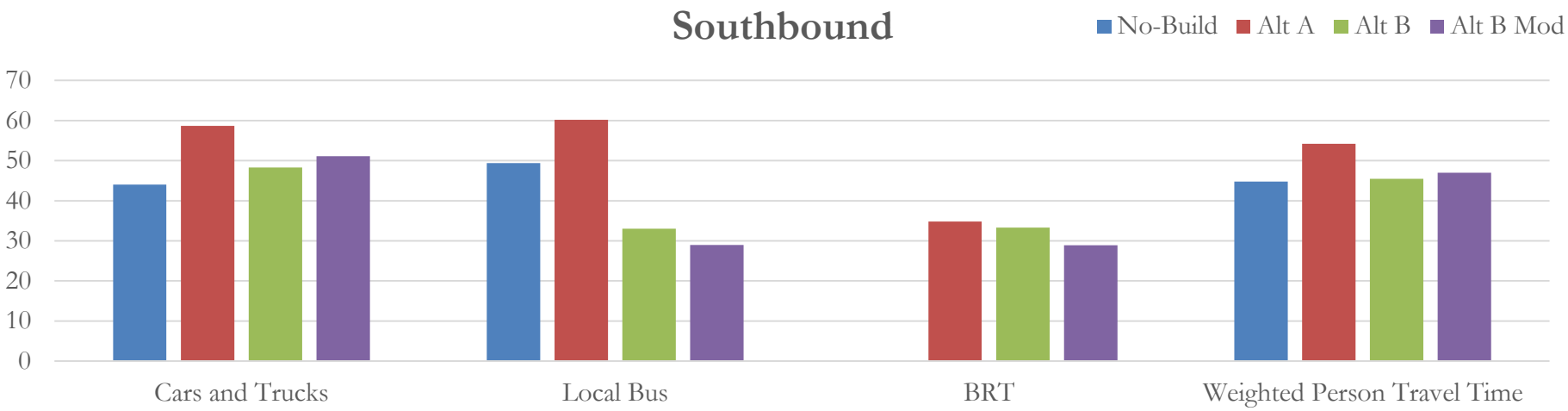
- **Transit:** Total daily transit boardings increase between 18 percent and 22 percent over No-Build conditions.
- Vehicle Miles Traveled are reduced under all three conceptual build alternatives.
- Person Miles Traveled are increased under all three conceptual build alternatives.
- **Vehicles:** A 60 percent or greater increase in HOVs and a decrease in SOVs are projected during the peak hours with Alternatives B and B Modified.

Traffic Operations Performance Measures

The traffic operations analysis covered the following key performance measures, among others:

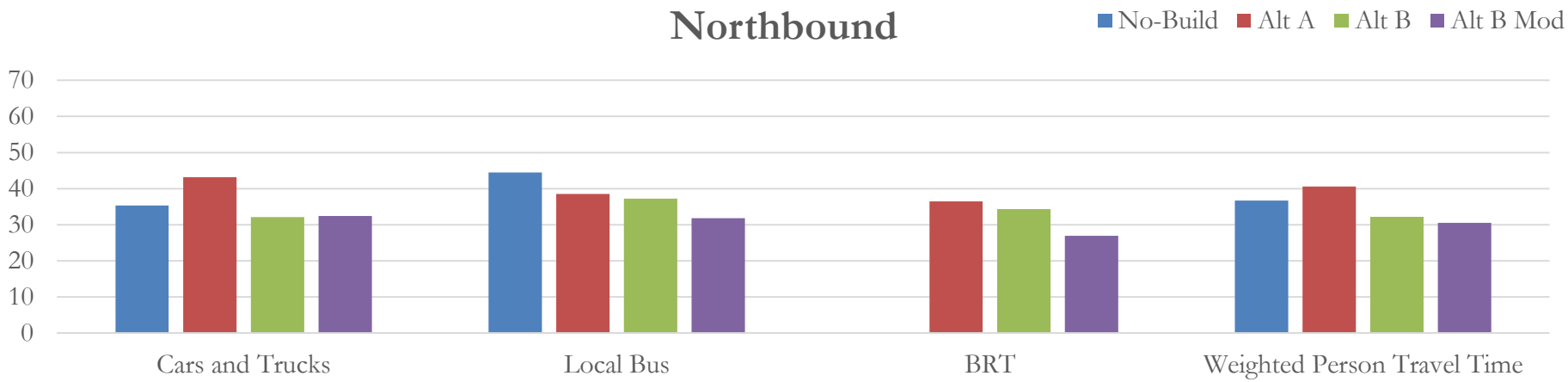
- Corridor Travel Time
- Person Throughput at Select Locations
- Miles of Level of Service (LOS) at 'E' or 'F'
- Intersections Operating at LOS 'E' or 'F'

AM Peak Hour Corridor Travel Time by Vehicle Type (minutes)



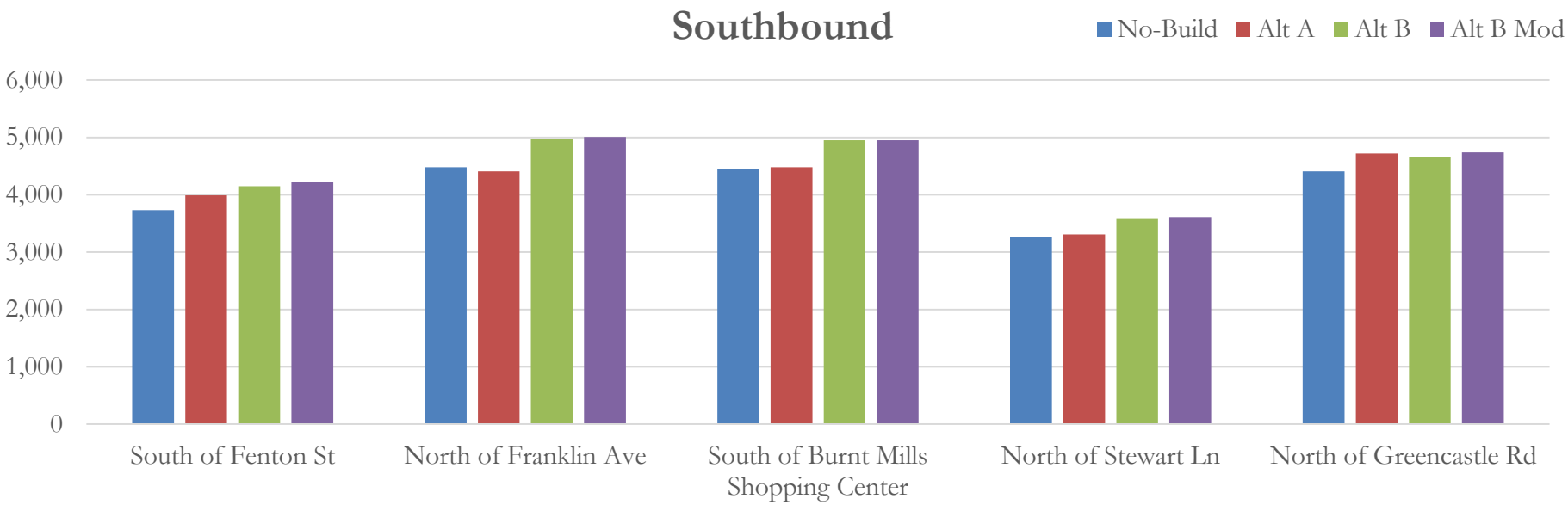
- BRT and local bus travel times are lowest with Alternative B Modified, followed by Alternative B.
- Travel time for cars and trucks is lowest with the No-Build, except for HOV, which has the lowest travel time with Alternative B.
- Weighted Person Travel Time is lowest with the No-Build; highest with Alternative A.
- **Potential Refinements:** Adjustments to the limits and transitions of the BAT lane or managed lane; operating the BRT in mixed-traffic; alternative bus routings; roadway capacity improvements.

PM Peak Hour Corridor Travel Time by Vehicle Type (minutes)



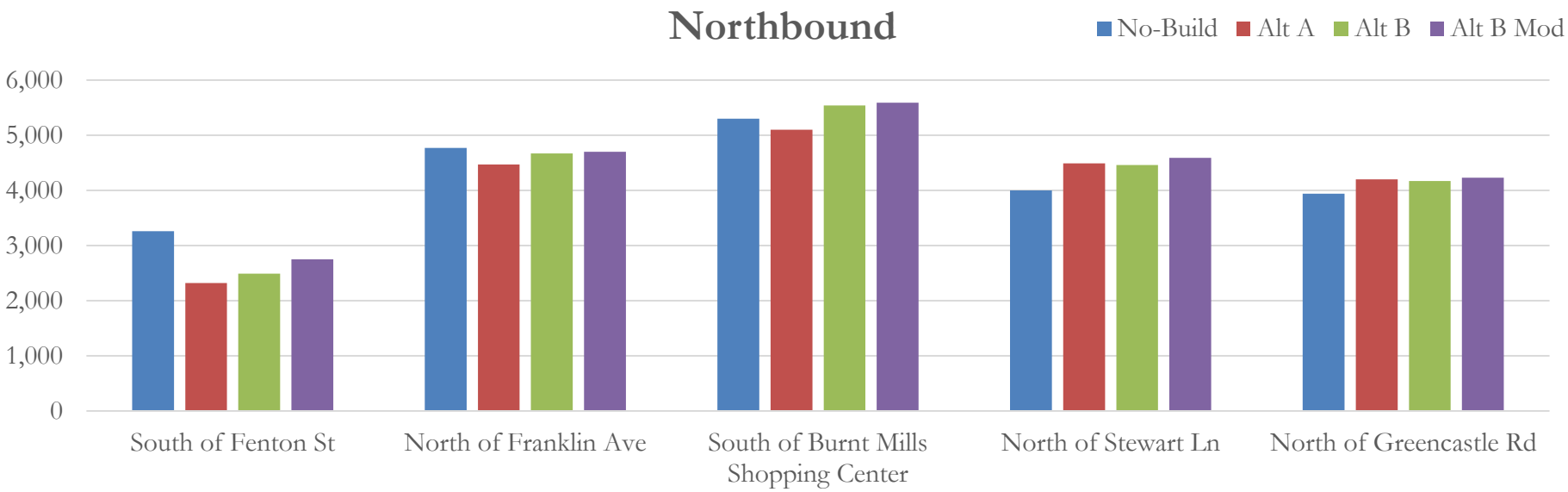
- BRT and local bus travel time improve for all build alternatives, but is lowest with Alternative B Modified.
- HOV travel time is lowest with Alternative B and Alternative B Modified; SOV travel time is lowest with the No-Build.
- Travel time for cars and trucks is highest with Alternative A due to delays in the BAT lane in the south.
- Weighted Person Travel Time is lowest with Alternative B Modified; highest with Alternative A.
- **Potential Refinements:** Adjustments to the limits and transitions of the BAT lane or managed lane; operating the BRT in mixed-traffic; alternative bus routings; roadway capacity improvements.

AM Peak Hour Person Throughput at Select Locations (people)



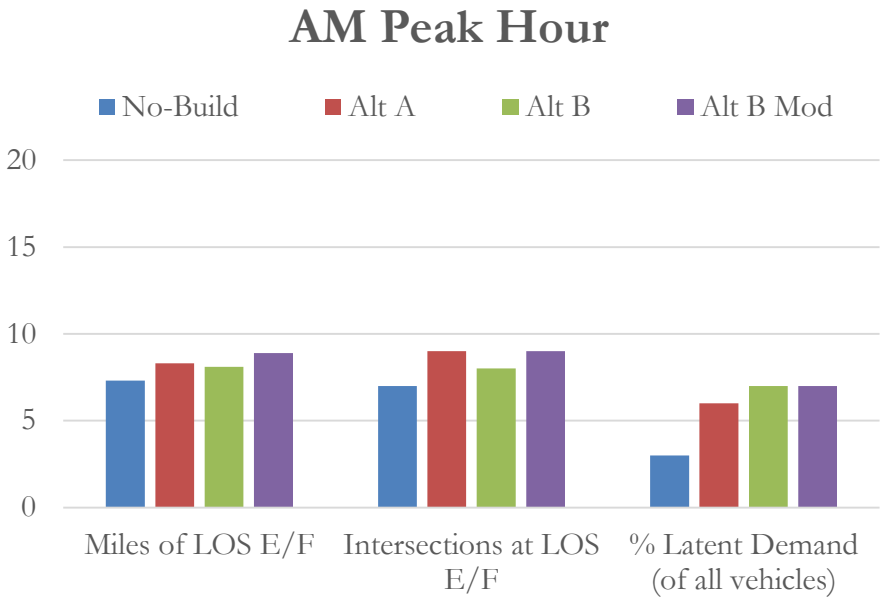
- Person throughput for all conceptual build alternatives increases or remains relatively the same as the No-Build.
- Person throughput with Alternatives B and B Modified is generally higher than with Alternative A.

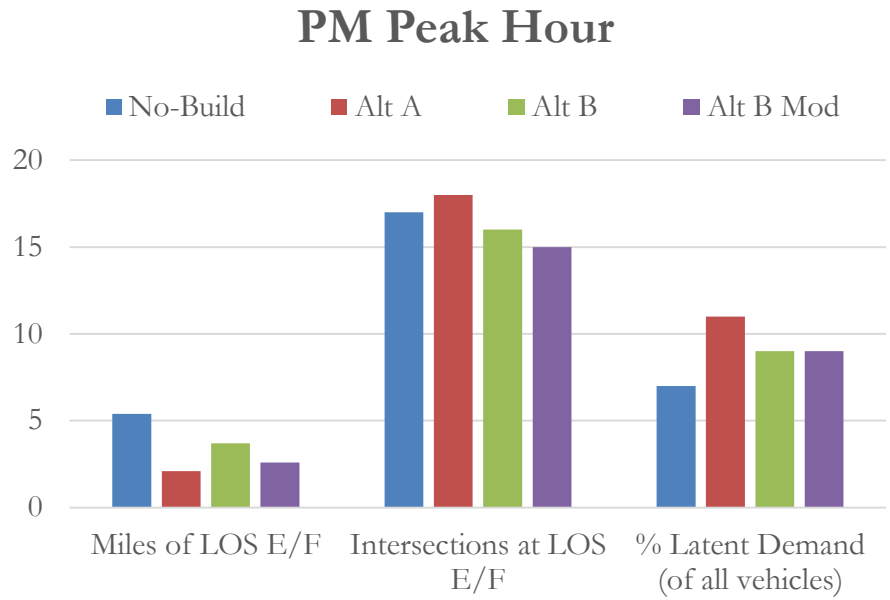
PM Peak Hour Person Throughput at Select Locations (people)



- Person throughput for all conceptual build alternatives is lower than person throughput for the No-Build at locations south of Fenton Street and north of Franklin Avenue.
- **Potential Refinements:** Adjustments to the limits and transitions of the BAT lane or managed lane; operating the BRT in mixed-traffic; alternative bus routings; roadway capacity improvements.
- Person throughput north of Stewart Lane and north of Greencastle Road are higher for all conceptual build alternatives than person throughput for the No-Build.

Traffic Performance





- Improvements to LOS in the PM Peak may be attributed to fewer vehicles accessing the corridor in the north.
- Person throughput for all conceptual build alternative is generally higher than the No-Build, but latent demand also increases due to fewer vehicles accessing the network.
- **Potential Refinements:** Adjustments to the limits and transitions of the BAT lane or managed lane; operating the BRT in mixed-traffic; alternative bus routings; roadway capacity improvements.

Traffic Analysis Results Overview

Overall the analysis shows the following:

- Improved Transit Travel Time
- Improved Person Throughput
- Potential Increase in Delays for Cars and Trucks
- Potential Increase in Latent Demand

Estimated Project Costs

	Right-of-Way ($M)	Bus Procurement ($M)	Construction ($M)	Annual Operating ($M)
Alternative A	$2 to $3	$21	$80 to $112	$9 to $10
Alternative B	$2 to $5	$17	$60 to $108	$8 to $9
Alternative B Modified	$2 to $3	$19	$77 to $106	$9 to $10

- Costs are approximate and based on 2015/2016 dollars.
- Right-of-Way costs in Alternative B are higher due to additional storm water management costs.
- Forecasted ridership levels for Alternative B indicate that fewer buses and reduced operating times are required; therefore, operations costs are lower compared to Alternatives A and B Modified.

MCDOT 2020 Project

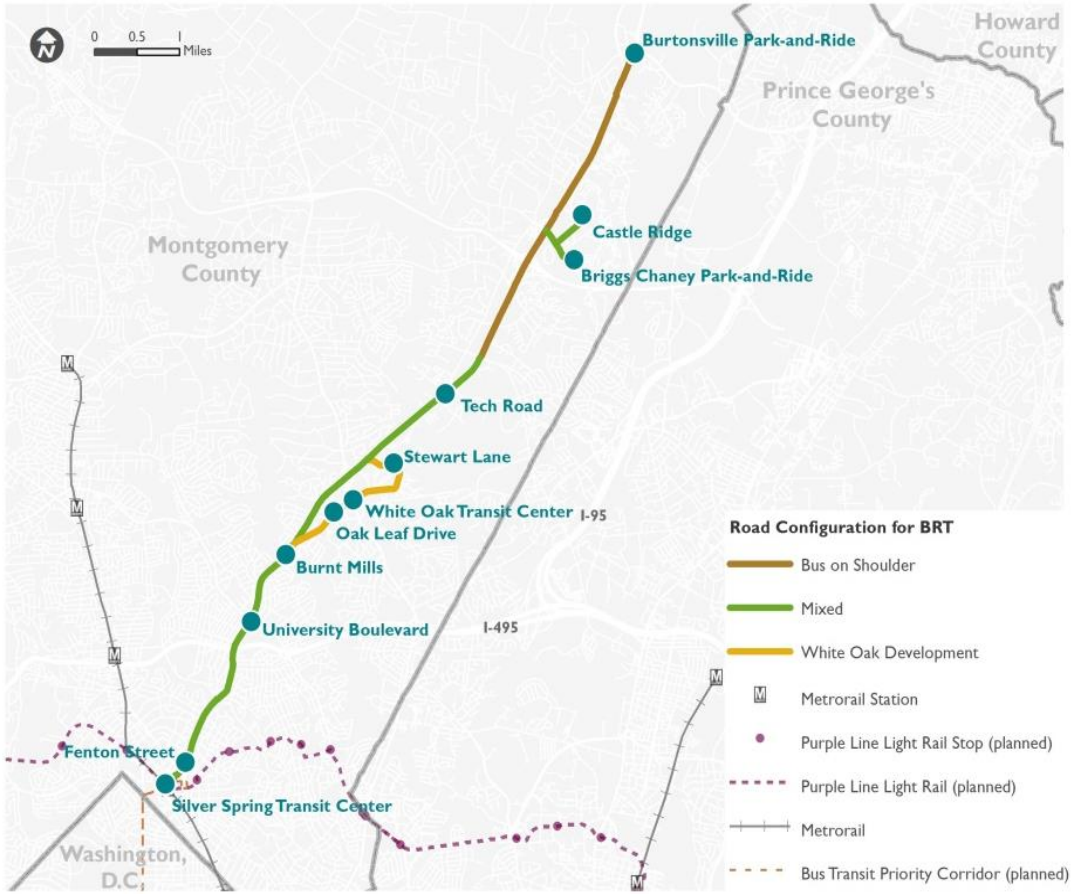
Background

- Countywide Transit Corridors Functional Master Plan (2013)
- MDOT US 29 Corridor Study started in 2014
  - County-initiated Corridor Advisory Committees (CACs)
  - Funded by MDOT
  - MDOT Alternatives Development and Analysis based on projected 2040 horizon year
- March 2016 - County Executive guided project direction
  - Lower cost
  - Within existing pavement as much as possible to minimize impacts
  - Implementation by 2020

MDOT Study Process Findings

- Information from MDOT Corridor Study to be used for MCDOT's project design
  - Station locations
  - Service plans
  - Cost of building new pavement in the north
  - Operational analysis
- Elements of US 29 BRT project to be implemented by 2020
  - Bus on Shoulder north of Tech Road
  - Existing travel lanes south of Tech Road
  - Stations
  - Vehicles
  - Transit Signal Priority (TSP)
  - Station-area bike/pedestrian improvements
- Managed lanes require additional analysis and will not be part of MCDOT's project

US 29 BRT Project – 2020 Implementation



Approximately 40% of the alignment along US 29 is in dedicated Bus on Shoulder lanes

US 29 BRT Estimated Infrastructure Costs (additions to CIP)

Project Element	Estimated Cost
BRT Stations and Stops	$13,000,000
Transit Signal Priority	$1,000,000
Vehicles	$14,000,000
Bicycle & Pedestrian Improvements	$2,000,000
Overhead & Grant Administration	$1,500,000
TOTAL	**$31,500,000**
Federal TIGER Funds	**$10,000,000**
County Contribution	**$21,500,000**

Note: County's FY17-22 budget already included $6.5 million for US 29 BRT planning and design

Moving Forward

- MDOT
  - Conduct this CAC meeting
  - Receive comments and update report as necessary
  - Complete Corridor Study Report

Moving Forward

- MCDOT
  - Advance project into design as described above
  - Evaluate connections to communities and employment centers
  - Advance station concepts
  - Continue coordination with MDOT
  - Continue Public Involvement
    - Project Introduction Open Houses (*March 7 and 15*)
    - Council Hearing and Presentation to Transportation & Environment Committee (*mid-late March*)
    - CACs led by MCDOT (*late March*)

Project Schedule

- NEPA (early 2017)
- Project design (early 2017 to mid 2018)
- Project construction (late 2018 to late 2019)
- Begin operations (late 2019/early 2020)

CACs will continue to meet to provide input on the project throughout these phases. A schedule of topics for upcoming CAC meetings will be provided at the late March meeting (*date TBD*).

Questions?

Discussions with Staff

Thank you for participating!