

# MD 355 - South Corridor Advisory Committee Meeting # 5

## Montgomery County **RAPID TRANSIT**

BRT CORRIDOR STUDIES

Montgomery County - Executive Office Building  
Rockville, Maryland  
December 15, 2015  
6:30 pm to 9:00 pm



# Welcome

## Agenda:

- BRT Project Management Team Update ..... 10 min
- Project Process & Schedule..... 20 min
- Goals & Objectives/Preliminary Purpose & Need..... 20 min
- Conceptual Alternatives Development ..... 15 min
  - Breakout Discussions ..... 45 min
  - Discussion and Sharing ..... 30 min
- Additional Q&A ..... 10 min

# BRT Project Management Team Update

- MCDOT, SHA, MTA partnership continues uninterrupted
- Management of US 29 and MD 355 Corridor Studies transferred from SHA to MTA
  - SHA has seen increase in highway related projects, straining resources
  - MTA has available resources
  - MTA brings additional transit-related expertise
- All consultant teams will remain involved

# Questions?

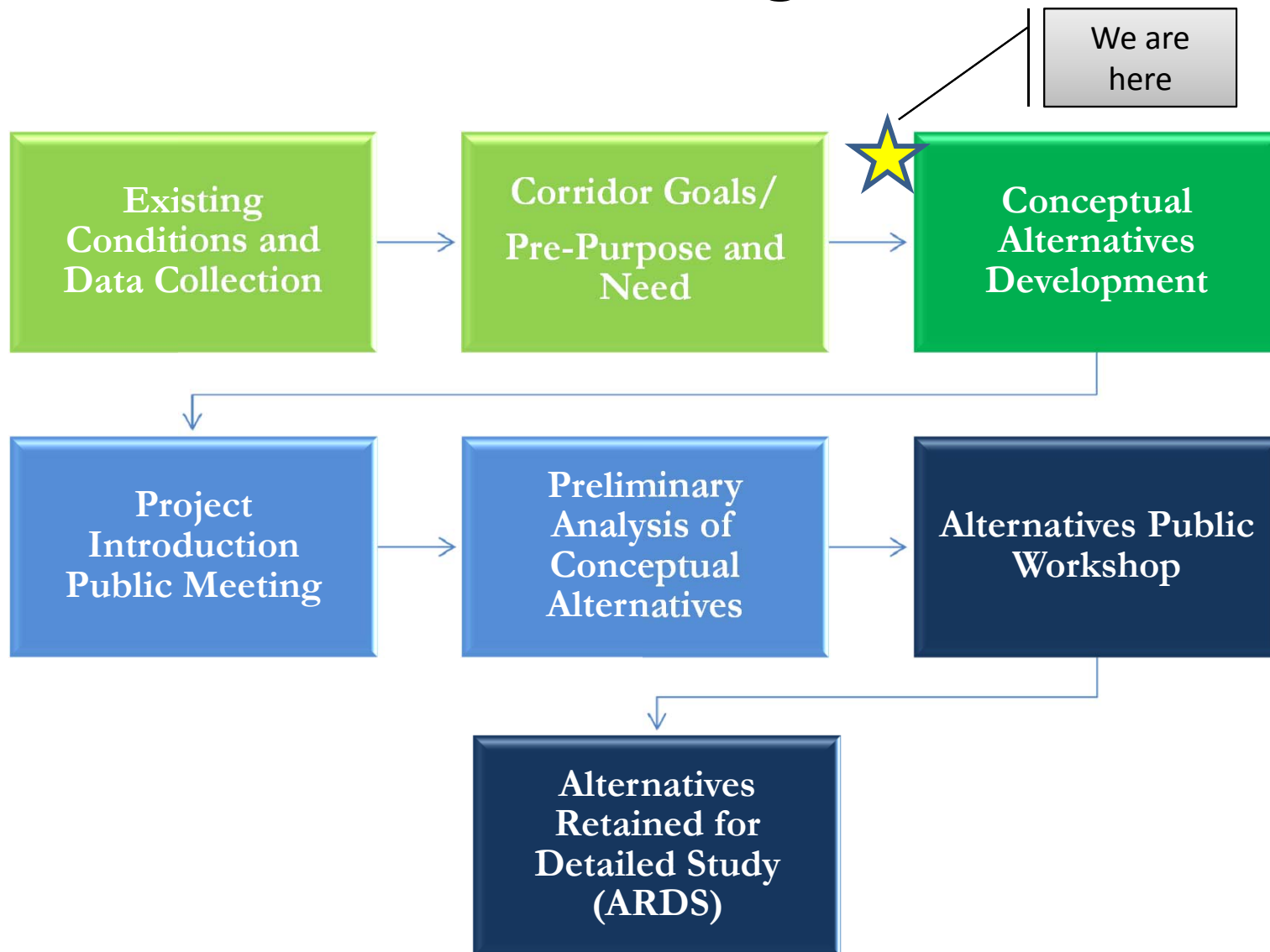
## ✓ BRT Project Management Team Update

### ✓ Q&A

- Project Process & Schedule
- Goals & Objectives/Preliminary Purpose & Need
- Conceptual Alternatives Development
  - Breakout Activity
  - Discussion and Sharing
- Additional Q&A



# Corridor Planning Process



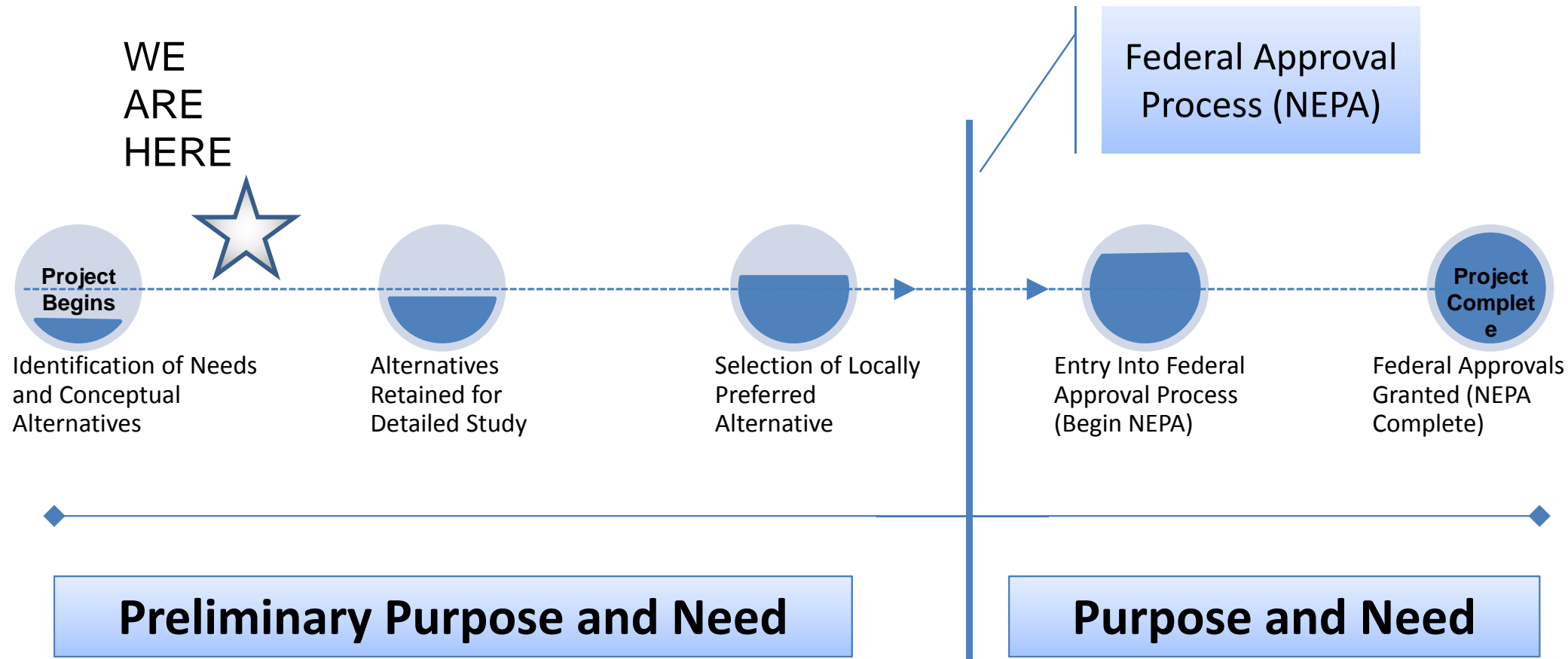
# MD 355 Milestone Schedule

	Summer 2015	Fall 2015	Winter 2016	Spring 2016	Summer 2016	Fall 2016	Winter 2017	Spring 2017	Summer 2017	Fall 2017	Winter 2018	Spring 2018	Summer 2018	Fall 2018	Winter 2019
Project Preliminary Purpose and Need Background															
Conceptual Alternatives															
Project Introduction Public Meeting															
Ridership, Traffic and Impacts Analysis															
Alts. Public Workshop															
ARDS Package															
Alternatives Refinement															
Build Traffic & Ridership															
Environmental Tech Analysis															
Draft Corridor Report															
Public Workshop															
LPA Selection															

CAC meetings through ARDS. Future meetings TBD based upon outcome of ARDS



# Planning Timeline



# Questions?

- ✓ BRT Project Management Team Update
- ✓ **Project Process & Schedule**
  - ✓ **Q&A**
- Goals & Objectives/Preliminary Purpose & Need
- Conceptual Alternatives Development
  - Breakout Activity
  - Discussion and Sharing
- Additional Q&A





# Development of Goals and Objectives

## CAC Input

- **CAC Meeting #2**
  - Corridor Planning Study
    - Overview
    - Needs and Values Exercise
- **CAC Meeting #3**
  - Draft Preliminary Purpose and Need language
    - Purpose
    - Need
  - Existing and Projected Traffic & Transit Conditions

# Development of Goals and Objectives

## CAC Input – Meeting #2 Exercise

Appendix: Needs, Values and Concerns Posters

**MD 355 Initial Needs, Values and Concerns**

**TRANSIT APPEAL AND MOBILITY:** Ensure convenient, appealing and reliable transportation choices (other than the private automobile), to reach major corridor employment, educational, commercial, and social/recreational destinations while maintaining reasonable automobile travel along MD 355.

**MOBILITY AND CONNECTIVITY:** Create efficient and safe access to transit from existing neighborhoods and between major transit modes, including safe and comfortable pedestrian access along the corridor, and across the corridor.

**LIVABILITY:** Develop MD 355 Corridor to support walking and a car-light lifestyle.

**LIVABILITY:** Improve conditions for bringing people to the unique and interesting businesses and special uses along the MD 355 Corridor.

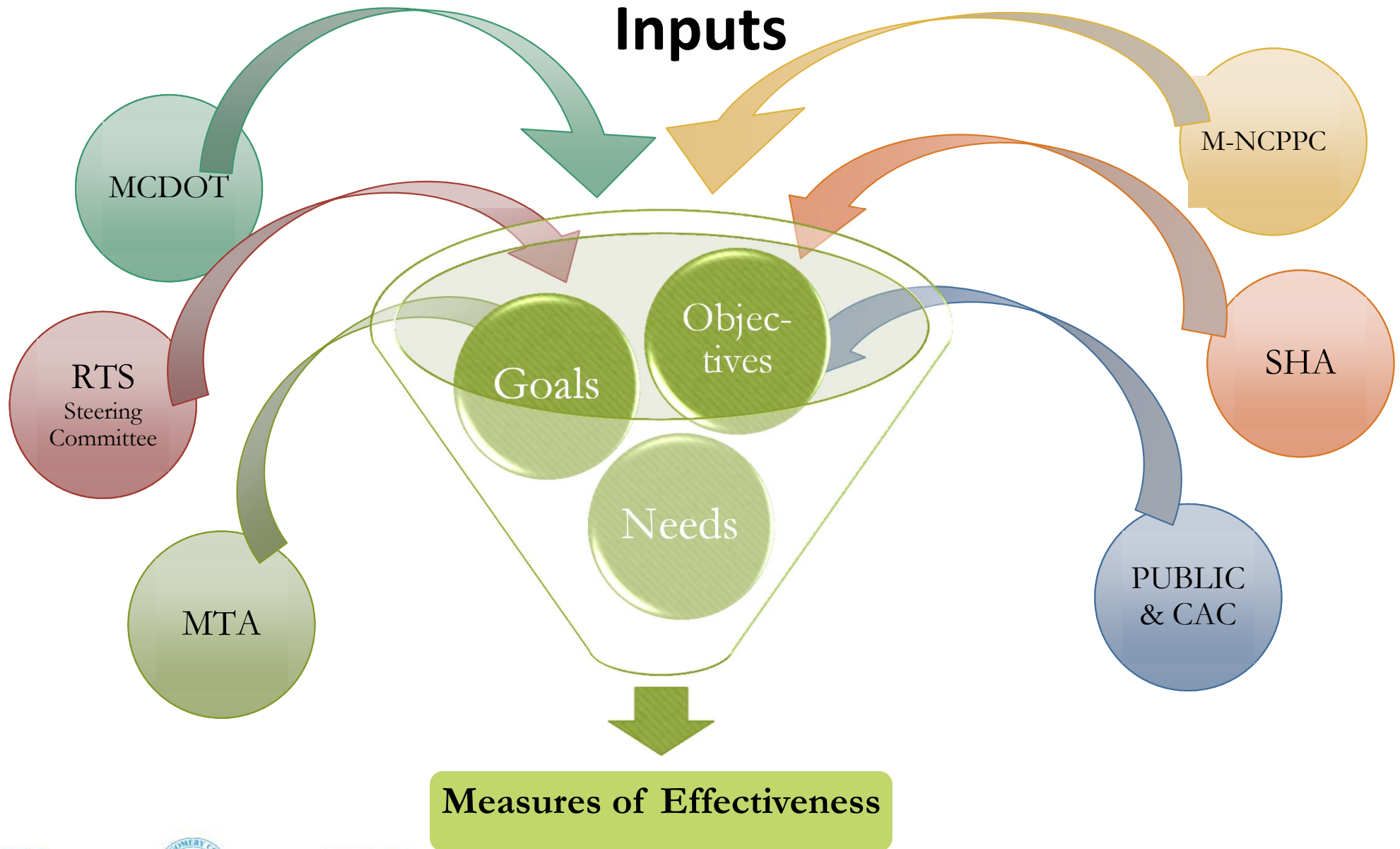
*Handwritten notes in red and black ink include:*  
 - "Cost of transit is a barrier" - customer concern  
 - "AMT bridges over Potomac / Reduce congestion on 495/270/355"  
 - "Appropriate mix of destinations - residential, commercial, employment, education, etc."  
 - "Use existing people as potential to move efficient way (any mode)"  
 - "Recognize changing local patterns to emerging employment hubs"  
 - "Improve bike facilities / connections"  
 - "Recharge local nature of corridor"  
 - "Tand, blue, future town, etc." - Exp. Car  
 - "Leverage new technologies"  
 - "The middle of the corridor (local use/traffic)"  
 - "Appropriately managed transfer (signal, monitoring, etc.)"  
 - "Expand transit stations to serve existing and planned developments"  
 - "Improve transit service to provide local, regional, and long-distance travel"  
 - "Adapt a mix of transit modes to provide for different uses along the corridor"  
 - "Redesign existing transit (e.g., surface parking lots) with social uses"  
 - "Think future transit beyond bus/rail, e.g., light rail, streetcar, etc."  
 - "Reduce existing parking lots, e.g., shift to more transit, e.g., light rail, streetcar, etc."  
 - "Shared info with shopping and neighborhoods"  
 - "Take local considerations (e.g., maintaining use of existing roads)"  
 - "Create a mix of destinations that support transit use"  
 - "Leverage transit infrastructure to support the use of transit, particularly for pedestrians"  
 - "Create a mix of destinations and destinations are valued in design of transit use"  
 - "Leverage transit infrastructure to support the use of transit, particularly for pedestrians"  
 - "Create a mix of destinations and destinations are valued in design of transit use"  
 - "Leverage transit infrastructure to support the use of transit, particularly for pedestrians"  
 - "Create a mix of destinations and destinations are valued in design of transit use"

any way they wished – they could place all three on their most important value/concern, or spread them out across two or three different ones.

The following matrix shows the compiled values/concerns that the groups developed, as well as the number of times a CAC Member identified it as an important value/concern. Photographs of the posters are attached as an appendix to this summary.

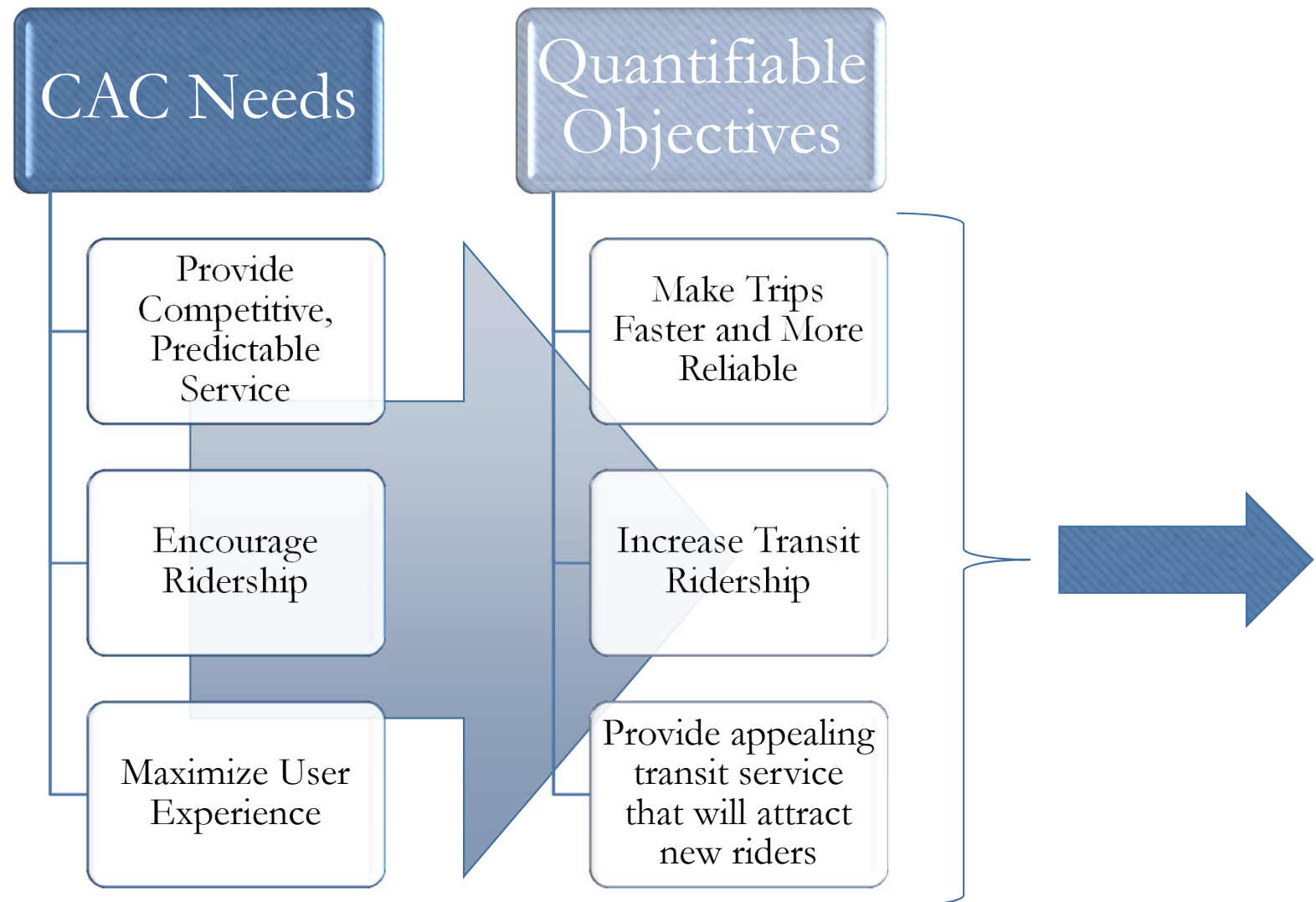
Needs	Values and Concerns	Number of Times a CAC Member Identified this as One of Three Most Important
TRANSIT APPEAL AND MOBILITY: Ensure convenient, appealing and reliable transportation choices (other than the private automobile), to reach major corridor employment, educational, commercial, and social/recreational destinations while maintaining reasonable automobile travel along MD 355.	Serve commute/regional travel from the MD 355 Corridor into downtown DC (This proposed item was removed by two of the four groups)	
	Integrate service to complement and leverage existing Red Line service	
	Serve local/shorter distance trips in and along the MD 355 corridor, particularly between Red Line stations	
	Serve existing and future activity centers (frequently spaced as future growth)	
	Maintain or improve travel times to corridor destinations for residents living near the corridor (dedicated lanes)	3
	Provide transit service that is competitive with the automobile (travel times and reliability). Provide real incentives, longer span of service (all day, weekends), balanced frequent stops with speed and reliability, competitive fare relative to cost of driving	14
	Expand and adjust Ride On feeder service to MD 355 BRT stations with increased service and frequency – Reduce expenses for parking and gas	
	Reduce traffic congestion on MD 355 and intersecting streets to better serve local trips for residents	
	Cost effective solutions, "do-ability"	3
	System that can fund a major portion of the project	1
	Additional bridges over Potomac/reduce congestion on 495/270/355	5
	Improve existing bus service on 46 (and expand)	
	Move as many people as possible in most efficient way (any mode); Emphasize moving people not autos	4
	Recognize changing travel patterns to emerging employment (residential hubs)	3
	Free up Red Line capacity for more local trips	
	Create redundant service to Red Line to support growth - 60% of riders go to Shady Grove	
	Fare integration - reasonable/competitive fare	

# Development of Goals and Objectives



# Development of Goals and Objectives

## CAC Input



## Goal

Improve Quality of Transit Service

## Objectives

Make Bus Trips Faster

Make Door-to-Door  
Transit Travel Time  
Competitive with  
Door-to-Door Auto  
Travel

Increase Transit  
Ridership

Provide an Appealing  
Transit Service that  
will Attract New  
Riders



## Goal

Develop Transit Services that Enhance Quality of Life

## Objectives

Provide Premium Transit Service Convenient to Households and Jobs within the Corridor

Minimize Private Property Impacts

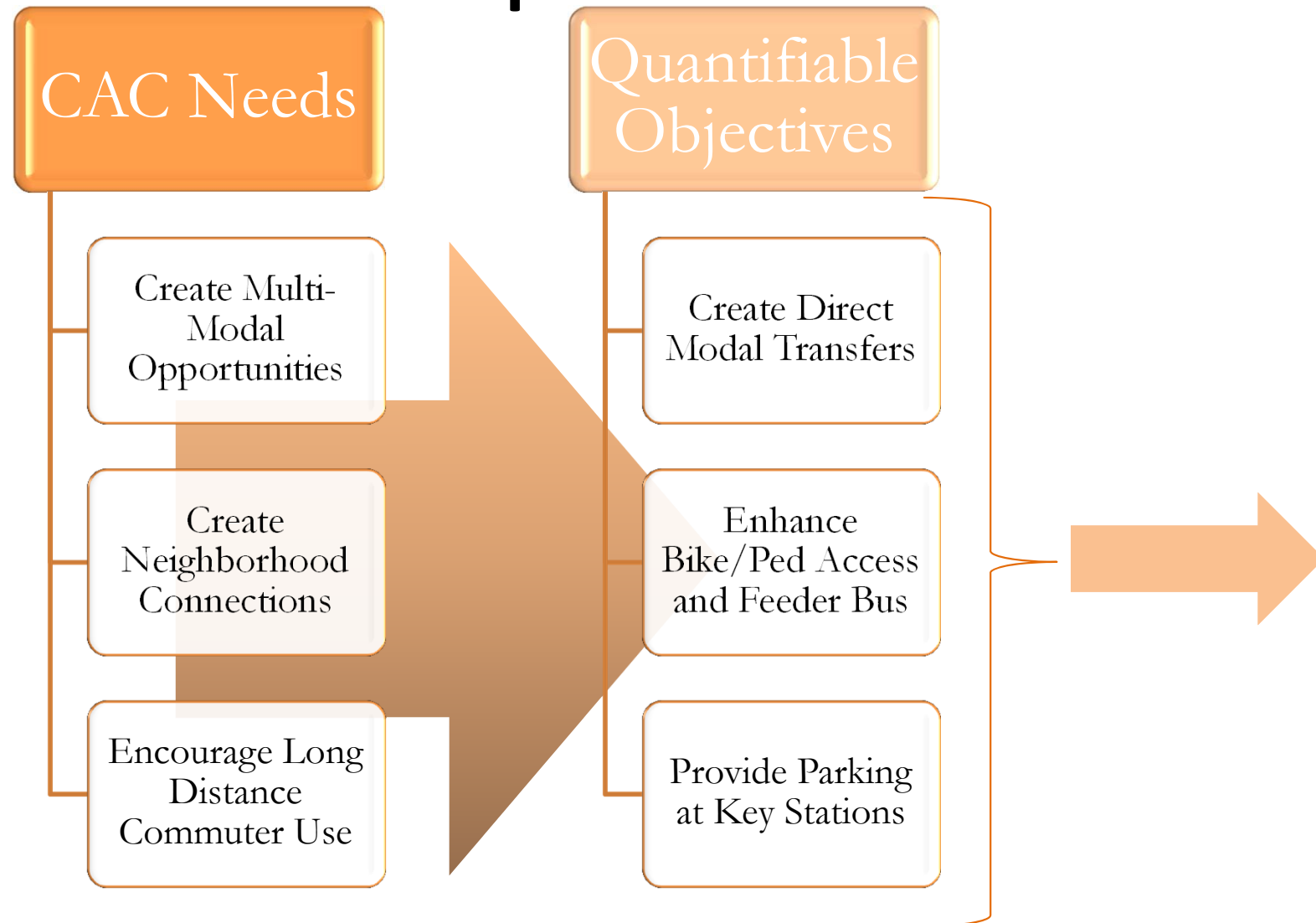
Serve Transit Dependent Populations

Engage Public in Process



# Development of Goals and Objectives

## CAC Input



## Goal

Improve Mobility Opportunities and Choices

## Objectives

Serve as Many  
Travelers as Possible  
by Efficiently Utilizing  
the Right-of-Way

Balance Travel Times  
for Automobile and  
Transit Users

Enhance Pedestrian  
and Bicycle Options in  
the Corridors

Create Direct  
Transfers Between  
Premium Bus and  
Other Modes

## Goal

Develop Transit Services that Support Master  
Planned Development

## Objectives

Improve Alternative  
Transportation Service to and  
Between Activity Centers

Increase Trips by Non-  
Automobile Modes to Support  
Development in the Master  
Plan

Select station locations that  
support infill and  
redevelopment

## Goal

Support Sustainable and Cost Effective Transportation Solutions

## Objectives

Maintain Environmental Quality

Minimize Cost of Building and Operating Transportation Services

# Purpose and Need

**Purpose and Need = WHAT and WHY**

## Purpose

- **WHAT** are the major goals and objectives?
- **WHY** will they be addressed by this project?

## Need

- **WHAT** are the existing or forecasted problems?
- **WHY** are these problems occurring?

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These fundamental questions provide support for later phases:

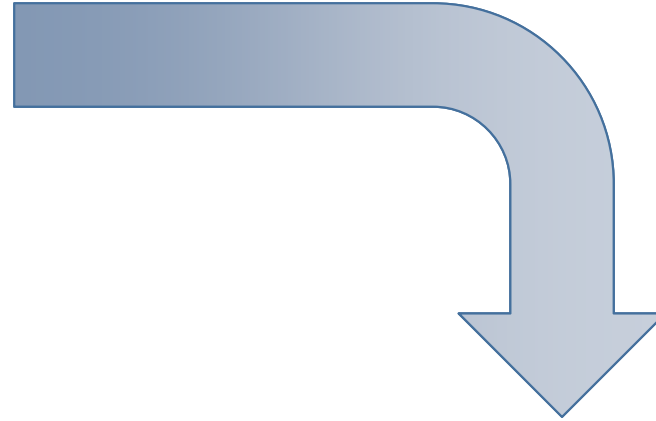
- Conceptual alternatives analysis: options for how to address the **what and why**
- Recommendations: the “best” options for how to satisfy the **what and why**

# Purpose and Need Development

## Preliminary Purpose and Need

### Role:

- Living document
- Basis for alternatives evaluation
- Follows NEPA guidelines
- Saves time in formal NEPA process



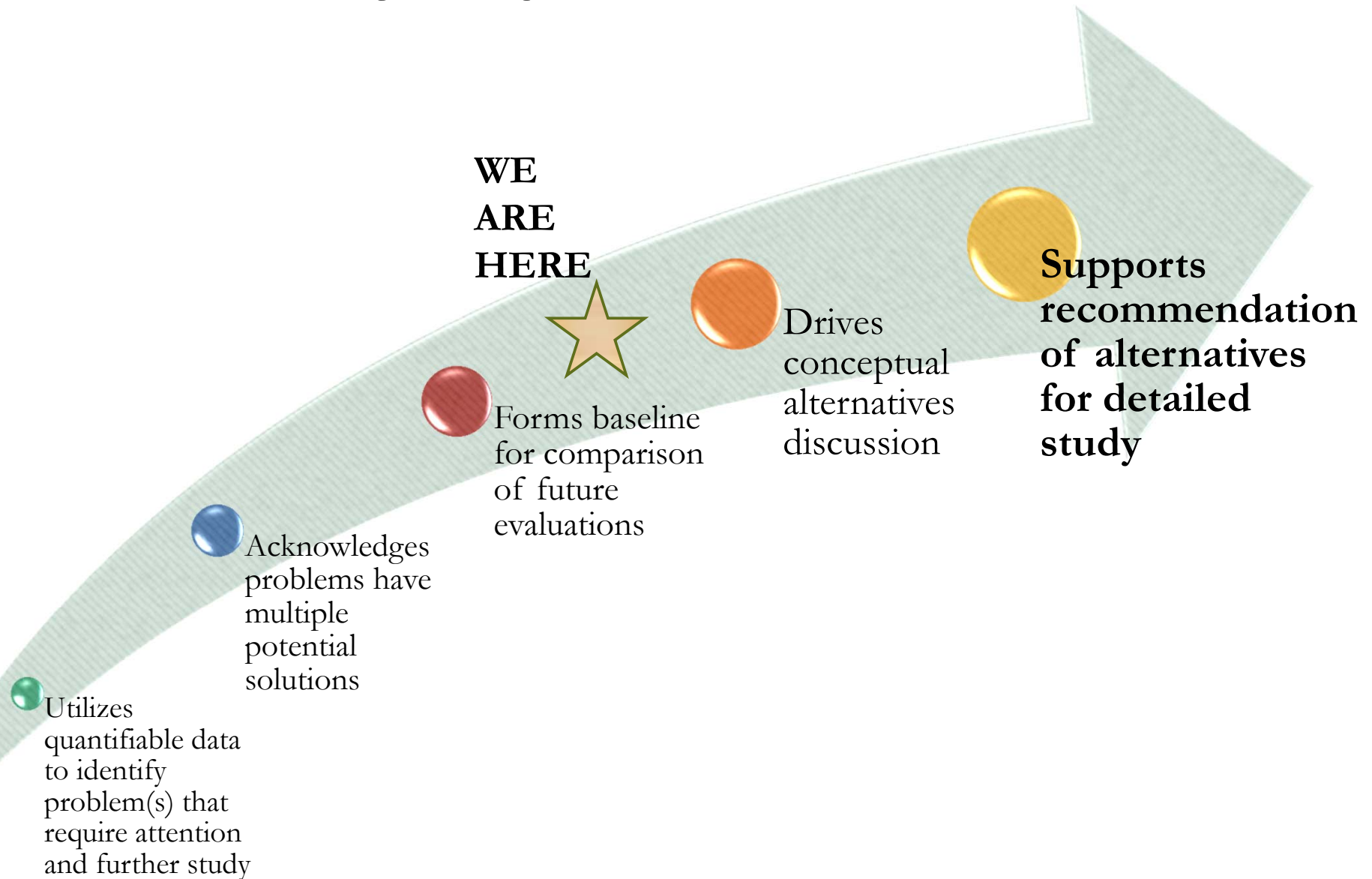
## NEPA Purpose and Need

### Role:

- Basis for Selected Alternative Evaluation
- Provide consensus between regulatory agencies
- Adopted by federal lead agency



# Preliminary Purpose and Need Process



# Preliminary Purpose and Need Document Next Steps

- **CAC Member Review and Comment**
  - Facilitators will email link to Draft Document in mid-December
  - Provide comments by end of January 2016
  - CAC Member comments will be combined with comments from the Spring public meetings

# Questions?

- ✓ BRT Project Management Team Update
- ✓ Project Process & Schedule
- ✓ **Goals & Objectives/Preliminary Purpose & Need**
  - ✓ Q&A
- Conceptual Alternatives Development
  - Breakout Activity
  - Discussion and Sharing
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# Conceptual Alternatives Development Process

- Work completed
  - Existing conditions evaluation
  - Goals and Objectives
  - Needs identification
- Next Steps
  - **Obtain CAC Member Input**
  - Complete Draft Preliminary Purpose and Need
  - Develop conceptual alternatives
  - Present conceptual alternatives for public input

# What makes a Conceptual Alternative?

- Components:
  1. Running way
    - Physical location and interaction with surrounding environment for the BRT
  2. Station locations
    - Specific location of BRT stops
  3. Service plan
    - BRT operational characteristics (headways, hours of service, bus routing)

# Conceptual Alternative Component BRT Running Way

- Running Way options have been identified for consideration
- The proposed options can be mixed and matched along different segments of the corridor to best fit within the surrounding area
- Location and dimensions of proposed roadway elements will vary throughout the corridor
- **NOT EVERY OPTION IS APPROPRIATE FOR EVERY SEGMENT OF THE MD 355 CORRIDOR**



# Conceptual Alternative Component BRT Running Way

## Considerations:

- BRT operations (speed, reliability)
- Traffic operations
- Visibility
- Connectivity
- Potential impacts

# BRT in Mixed Traffic

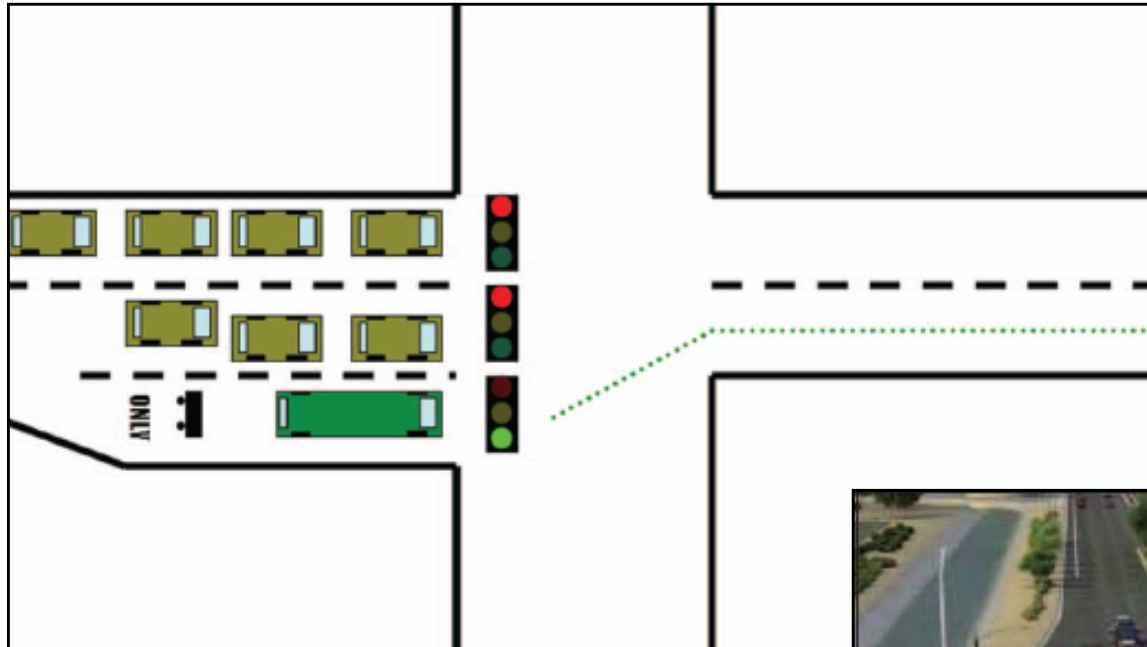


Brampton, Canada

Brampton, Canada



# BRT Queue Jump



Queue Jump Concept





# Reversible / Bi-Directional BRT Lane



Eugene, Oregon



# Bi-Directional BRT Lane



Eugene, Oregon



# Dedicated Median BRT Lanes



Alexandria, Virginia

Chicago, Illinois (Concept)





# Dedicated Curb BRT Lanes



Chicago, Illinois (Concept)



Snohomish County, Washington

# Conceptual Alternative Component Station

- Began with station locations as proposed in the Countywide Transit Corridors Functional Master Plan
- Made revisions to station locations based on further study by the City of Gaithersburg and input from the City of Rockville and the Montgomery County Department of Transportation
- Considerations:
  - Adjacent land use
  - Proposed development
  - Ease of access (vehicles, bicycles, pedestrians)
  - Connectivity to existing and proposed transit service



# Station Configuration – Median Running



Eugene, Oregon

Changzhou, China





# Station Configuration – Curb Running



Brooklyn, New York

Brooklyn, New York

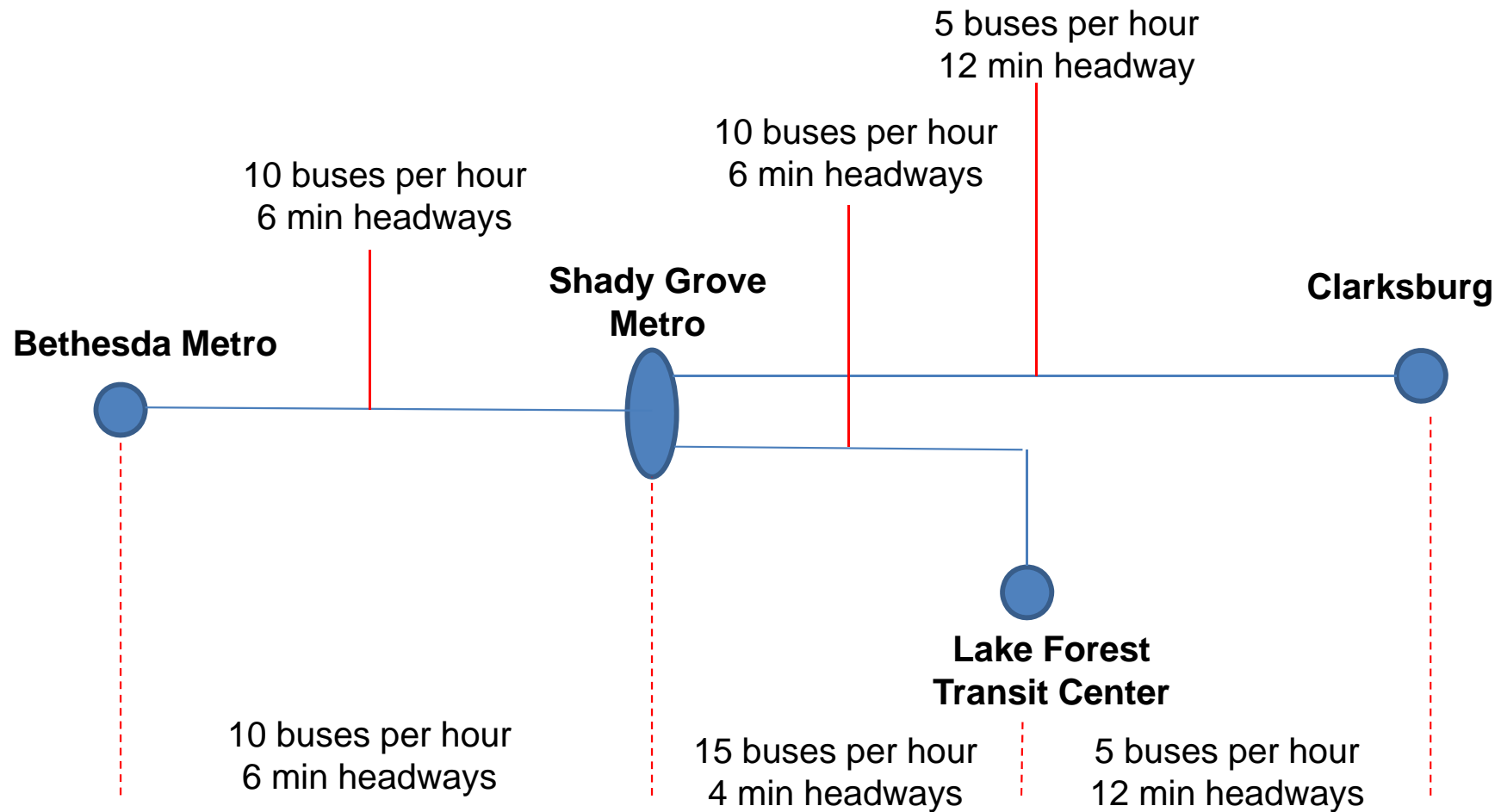


# Conceptual Alternative Component Operations Plan

## Considerations:

- Bus Routing (Spurs)
- Transfer Points
- Headways/Frequencies
- Number of Buses

# Conceptual Alternative Component Sample Operations Plan



# Conceptual Alternatives Development Breakout Activity

## Three Topics to Discuss:

1. **Running Way** - What running way(s) may be appropriate for this segment of MD 355?
2. **Station locations**, surroundings, and access - What station locations may be appropriate for this segment of MD 355?
3. **Service and operations** - What activity centers should the BRT system serve?



# Questions?

- ✓ BRT Project Management Team Update
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  - ✓ **Discussion and Sharing**
  - ✓ **Q&A**
- Additional Q&A



# Additional Questions



# Adjournment