

MD 355 - North Corridor Advisory Committee Meeting # 5

Montgomery County **RAPID TRANSIT**

BRT CORRIDOR STUDIES

Sidney Kramer Upcounty Regional Services Center
Germantown, Maryland
December 10, 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?

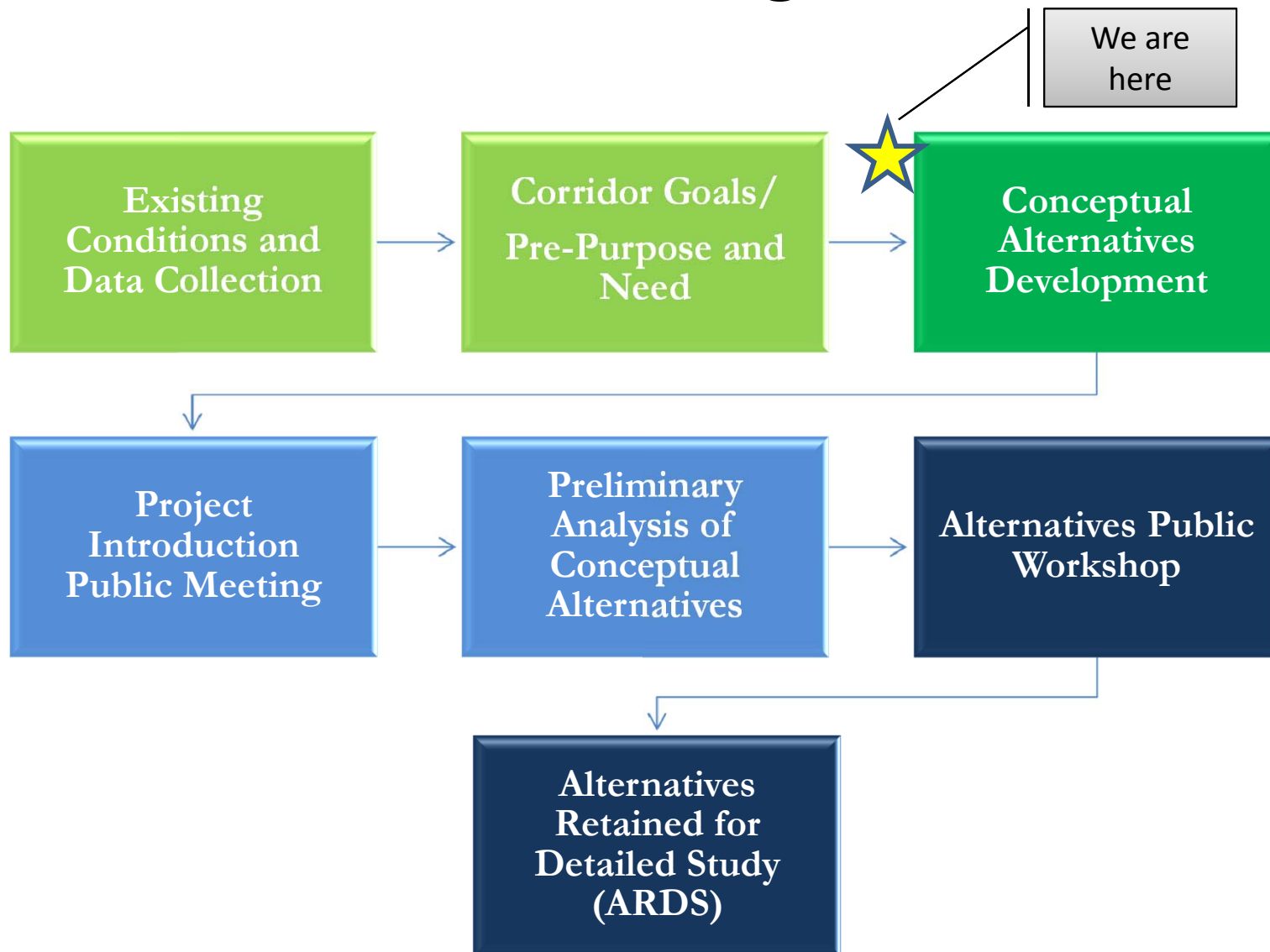
✓ BRT Project Management Team Update

✓ Q&A

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



Corridor Planning Process

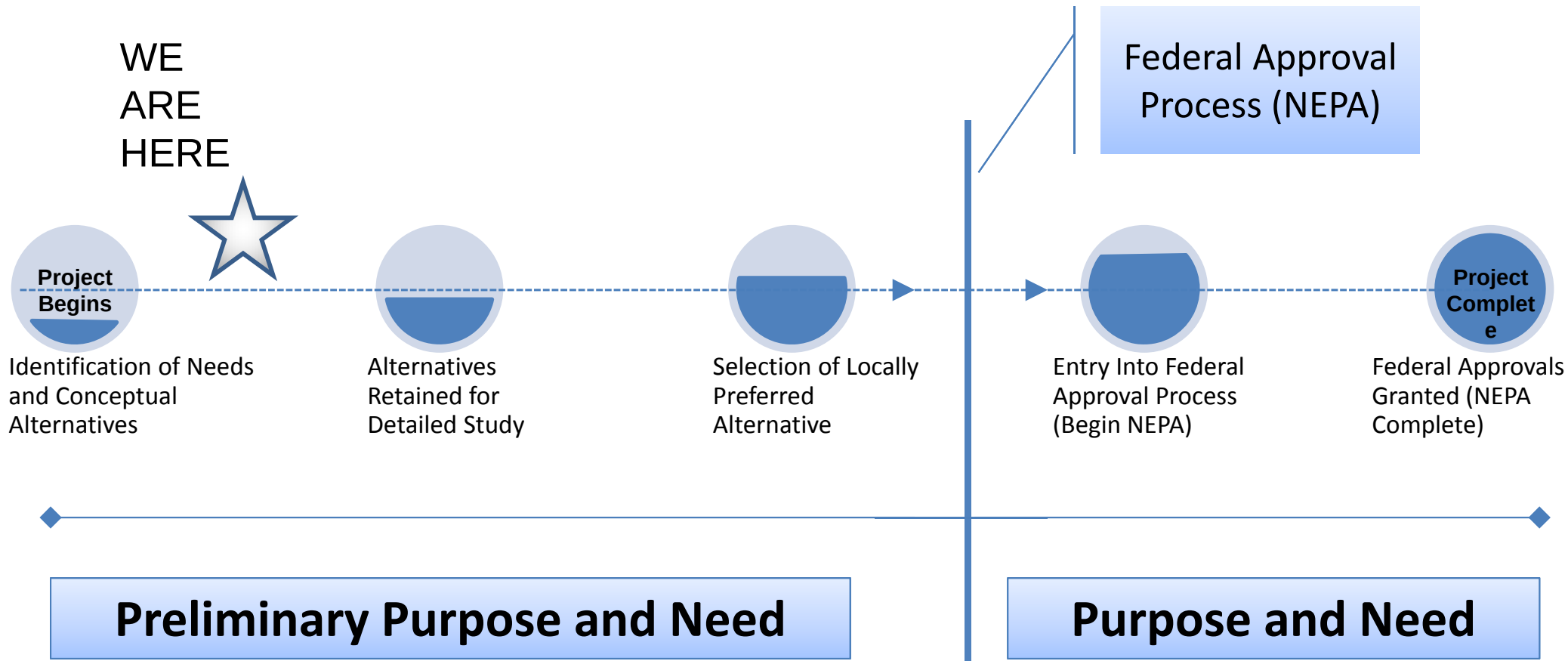


MD 355 Milestone Schedule

	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 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

Montgomery County
RAPID TRANSIT
MD 355
North

MD 355 Initial Goals and Objectives - DISCUSSION DRAFT 04.07.15

Needs	Values and Concerns
TRANSIT APPEAL AND MOBILITY: Create reasonable, appealing and reliable transportation system besides a private automobile, to reach employment, education, commercial, and social/recreational destinations near the corridor while maintaining reasonable automobile travel	Provide commuteregional travel from the MD 355 Corridor into downtown DC Serve commuteregional travel from I-270 north of the MD 355 Corridor into downtown DC Serve local/shorter distance trips in and along the MD 355 corridor Serve existing and future activity centers Maintain or improve travel times for residents near the corridor Provide transit service that is competitive with the automobile (travel times, frequency and convenience) Provide a transportation system that is optimal for different trip types Provide a transit system that is more predictable, faster, more convenient and comfortable than existing transit such as Ride On and Metro Provide a transit system that is better than auto travel Maximize direct access to BRT Create a system that is expandable Create a system that is well connected with other modes Create a system that is flexible as technology improves Explore alternatives that generates revenues that can be used for maintenance/amenities Provide 24 hour service Ensure network and power availability (focus on people within 1 mile of the station) Create a system that "beats sitting in traffic" - provide fewer stops and faster service Provide climate protected and controlled stations Create a predictable system that arrives on time (dots merged with "Provide a transit system that is more predictable...") Cost-appealing for riders including middle income riders, families, the disabled Understand and appeal to changing transportation "cultures." Use advanced technologies that are environmentally friendly, such as hydrogen fuel Provide safe pedestrian access to transit stations and activity centers along and across MD 355 Provide local transit service between neighborhoods to MD 355 transit stations Provide safe, well-Rt access to transit stations and at the stations Provide a complete and safe sidewalk network Provide multi-use paths to access BRT Provide a net increase in safe pedestrian access Provide safe, well-Rt pedestrian access along MD 355 Provide covered walkways and waiting/boarding areas Simplify connections between transit modes (COT, Metro, BRT) and consolidate fare collection systems
MOBILITY AND CONNECTIVITY: Create efficient and safe access to transit stops from existing neighborhoods and encourage major transit modes, including safe and comfortable pedestrian access along the corridor, and across the corridor	Provide safe, well-Rt access to transit stops from existing neighborhoods and between major transit modes, including safe and comfortable pedestrian access along the corridor, and across the corridor Provide a complete and safe sidewalk network Provide multi-use paths to access BRT Provide a net increase in safe pedestrian access Provide safe, well-Rt pedestrian access along MD 355 Provide covered walkways and waiting/boarding areas Simplify connections between transit modes (COT, Metro, BRT) and consolidate fare collection systems
LIABILITY: Develop MD 355 Corridor features that support pedestrian transit investments	Develop MD 355 Corridor features that support pedestrian transit investments
LIABILITY: Preserve the character of existing neighborhoods	Preserve the character of existing neighborhoods

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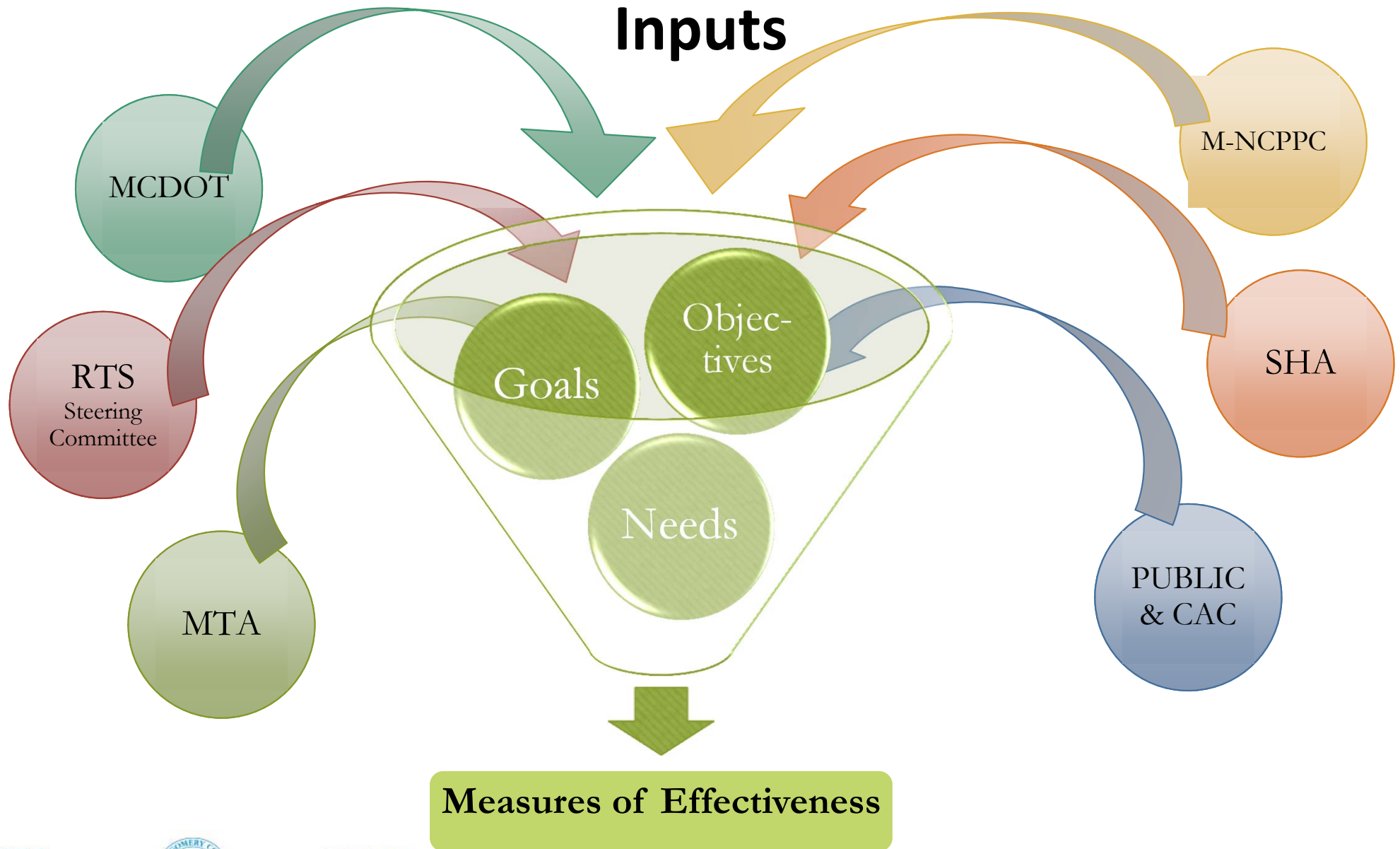


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Needs	Values and Concerns	Number of Times a CAC Member Identified this as One of Three Most Important
TRANSIT APPEAL AND MOBILITY: Create reasonable, appealing and reliable transportation choices besides a private automobile, to reach employment, education, commercial, and social/recreational destinations near the corridor while maintaining reasonable automobile travel	Serve commute/regional travel from the MD 355 Corridor into downtown DC	
	Serve commute/regional travel from I-270 north of the MD 355 Corridor into downtown DC	
	Serve local/shorter distance trips in and along the MD 355 corridor	
	Serve existing and future activity centers	1
	Maintain or improve travel times for residents near the corridor	
	Provide transit service that is competitive with the automobile (travel times, frequency and convenience)	2
	Provide a transportation system that is optimal for different trip types	
	Provide a transit system that is more predictable, faster, more convenient and comfortable than existing transit such as Ride On and Metro	4
	Provide a transit system that is better than auto travel	
	Maximize direct access to BRT	1
	Create a system that is expandable	3
	Create a system that is well connected with other modes	2
	Create a system that is flexible as technology improves	
	Explore alternatives that generates revenues that can be used for maintenance/amenities	
	Provide 24 hour service	
	Ensure network and power availability (focus on people within 1 mile of the station)	
	Create a system that "beats sitting in traffic" – provide fewer stops and faster service	1
MOBILITY AND CONNECTIVITY: Create efficient and safe access to transit stops from existing neighborhoods and between major transit nodes, including safe and comfortable pedestrian access along the corridor, and across the corridor.	Provide climate protected and controlled stations	
	Create a predictable system that arrives on time (dots merged with "Provide a transit system that is more predictable...")	
	Cost-appealing for riders including middle income riders, families, the disabled	1
	Understand and appeal to changing transportation "cultures."	
	Use advanced technologies that are environmentally friendly, such as hydrogen fuel	2
	Provide safe pedestrian access to transit stations and activity centers along and across MD 355	
	Provide local transit service between neighborhoods to MD 355 transit stations	2
	Provide safe, well-fit access to transit stations and at the stations	
	Provide a complete and safe sidewalk network	1
	Provide multi-use paths to access BRT	2
	Provide a net increase in safe pedestrian access	1
	Provide safe, well-fit pedestrian access along MD 355	
	Provide covered walkways and waiting/boarding areas	1
	Simplify connections between transit modes (COT, Metro, BRT) and consolidate fare collection systems	8

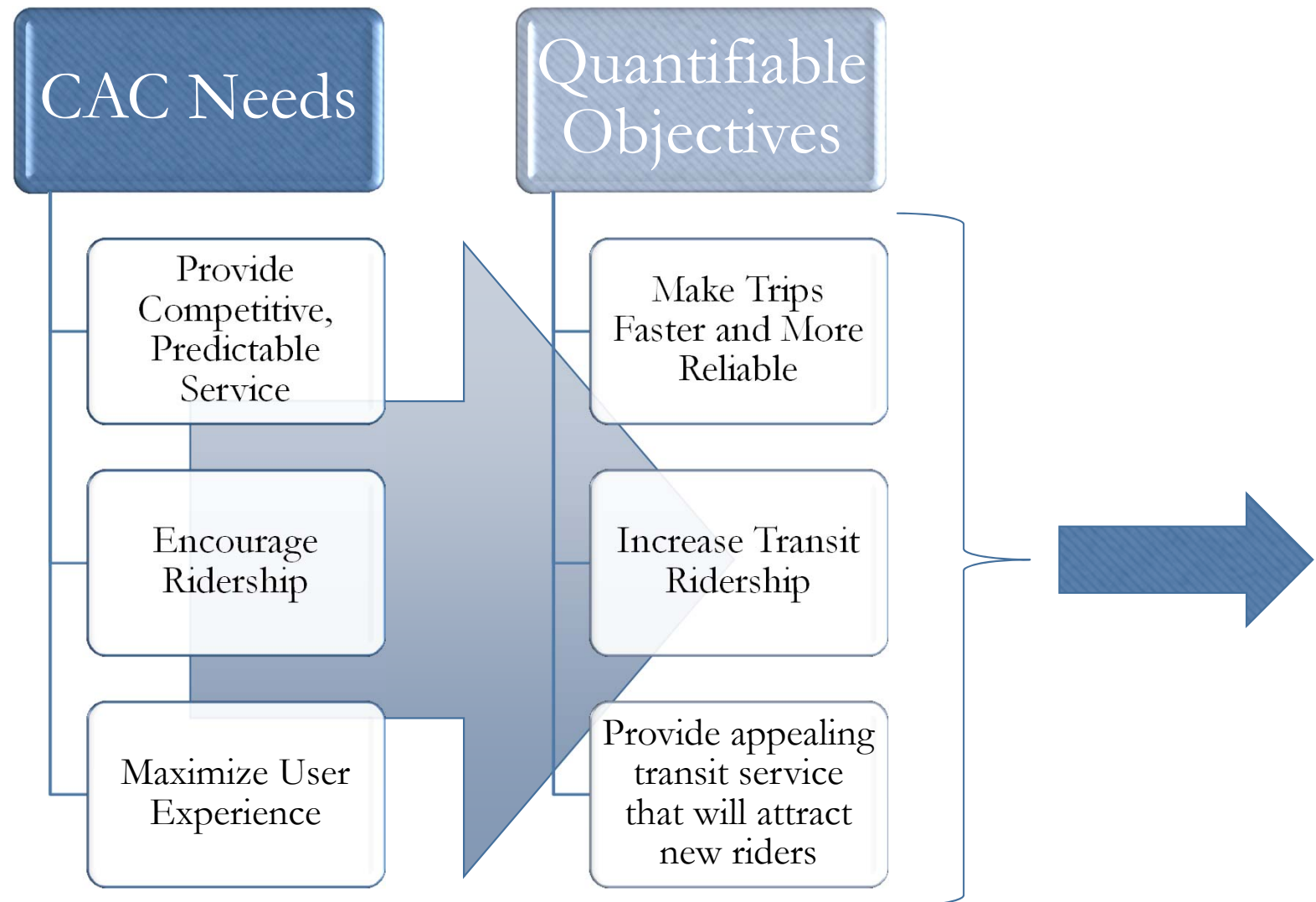


Development of Goals and Objectives



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

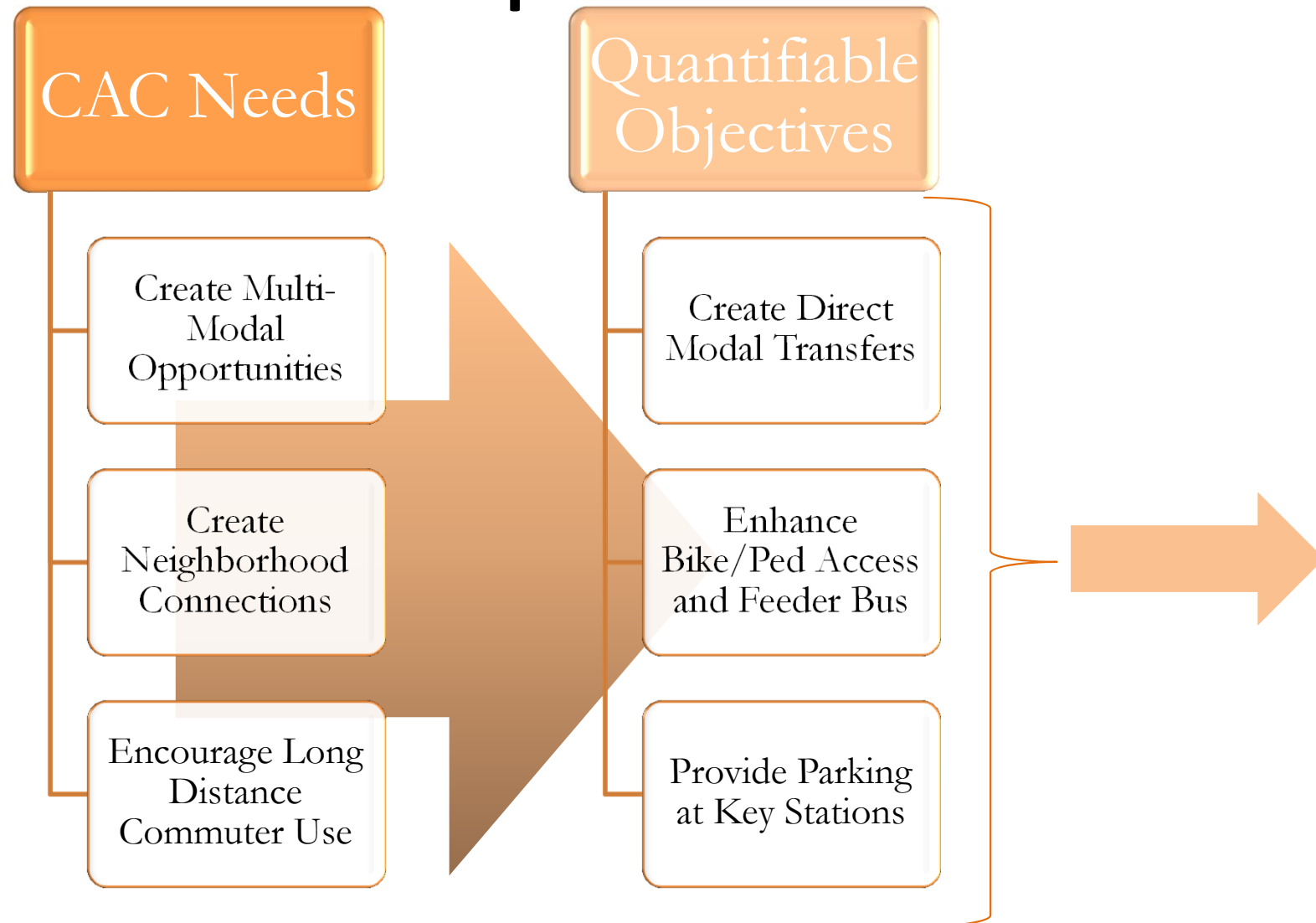
Minimize Private Property Impacts

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?

These fundamental questions provide support for later phases:

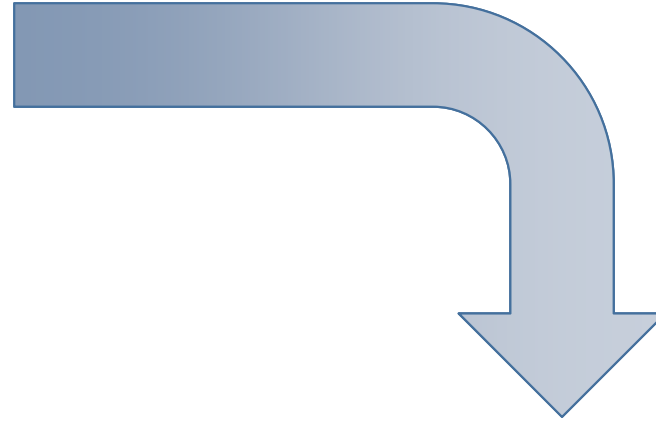
- Conceptual alternatives analysis: options for how to address the **what and why**
- Recommendations: the “best” options for how to satisfy the **what and why**

Purpose and Need Development

Preliminary Purpose and Need

Role:

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

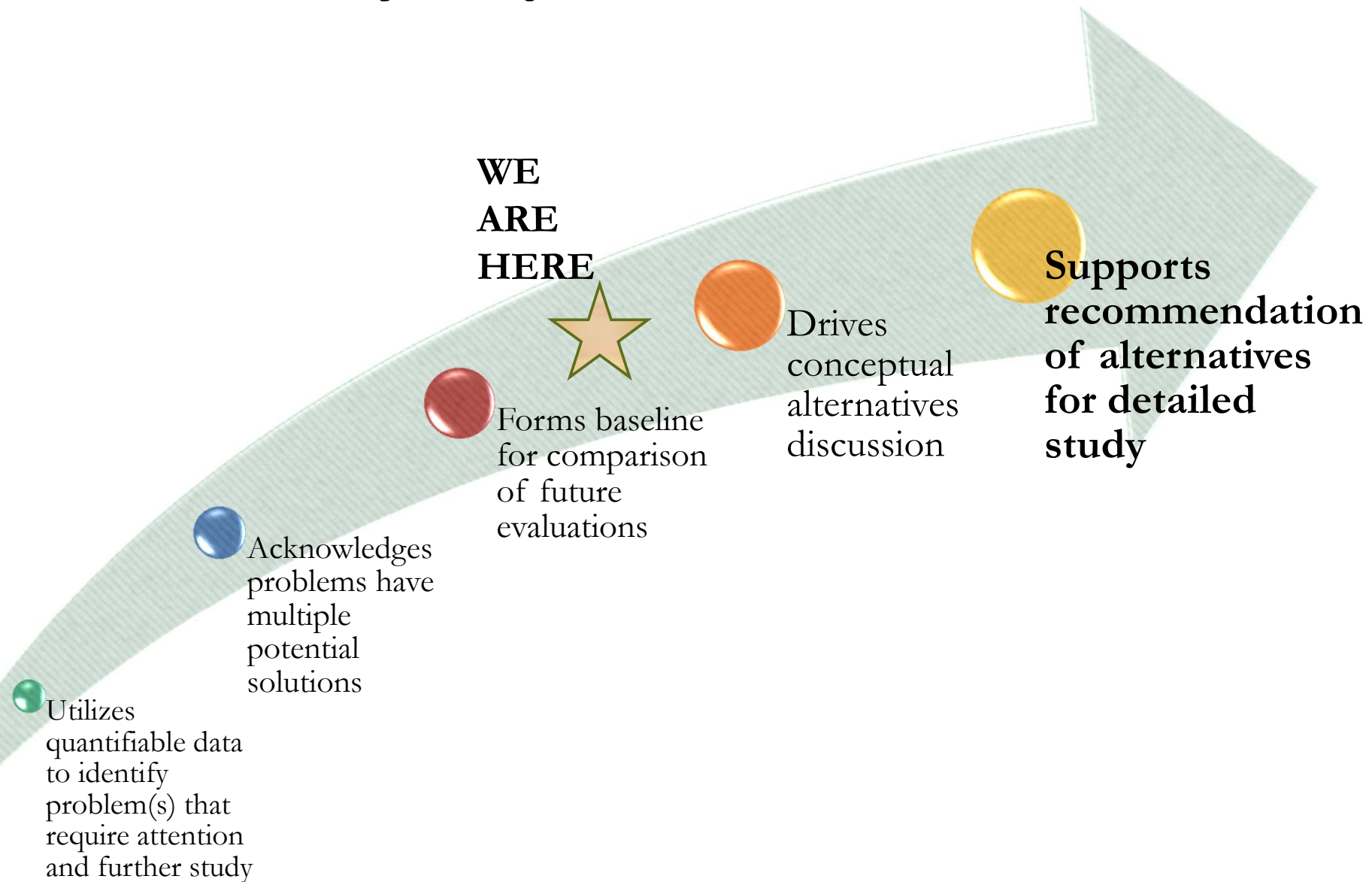


NEPA Purpose and Need

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
- Additional Q&A



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

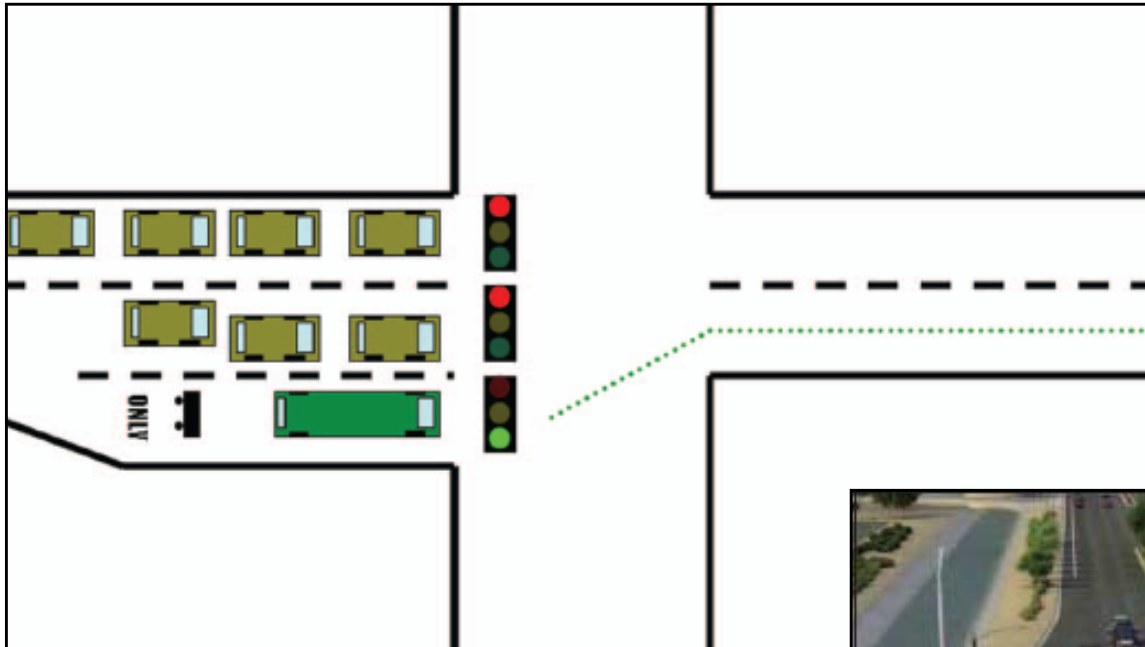


Brampton, Canada

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



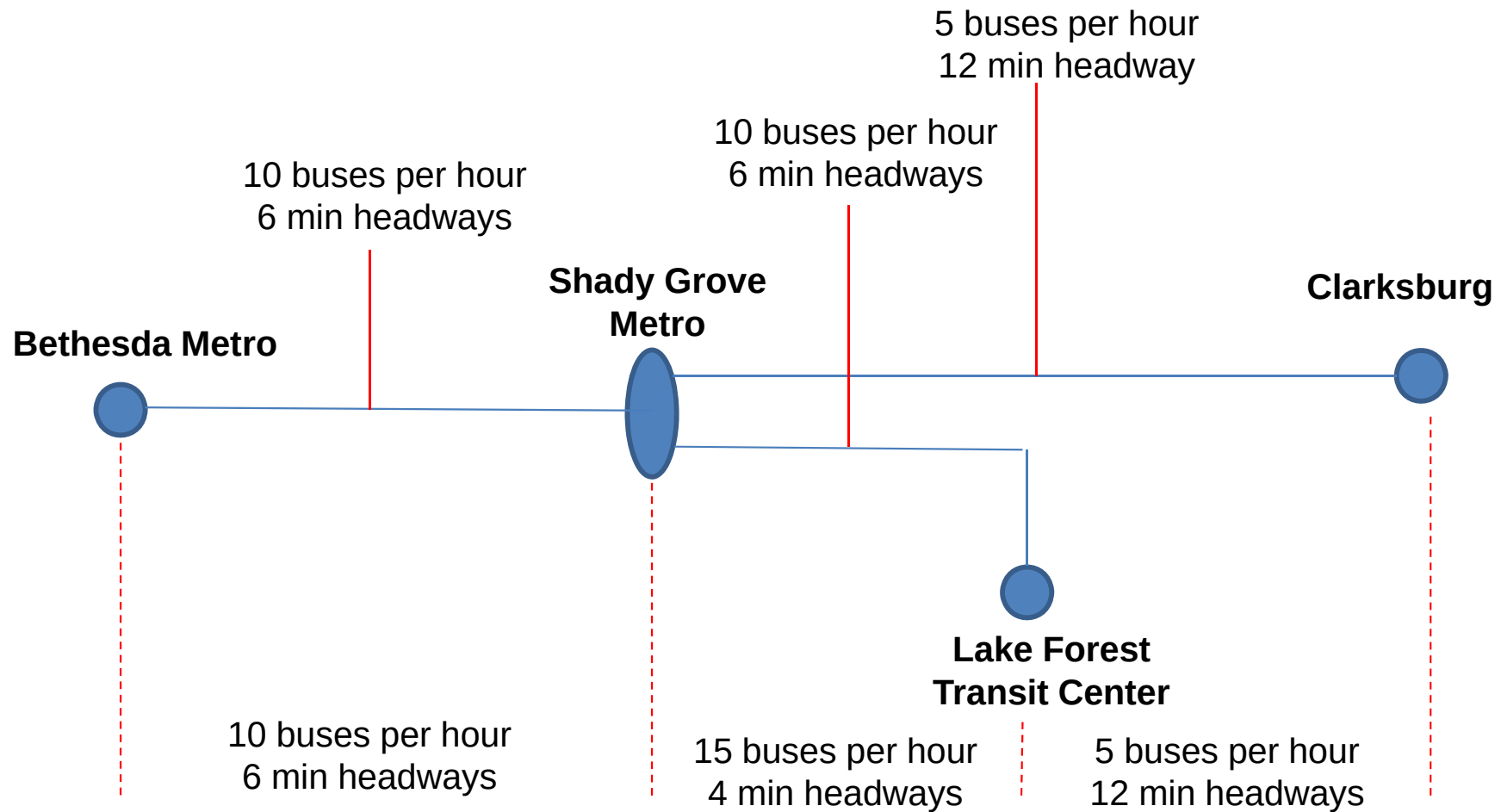
Brooklyn, New York

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?

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Additional Questions



Adjournment