

GetOnBoardBRT

BUS RAPID TRANSIT IN MONTGOMERY COUNTY

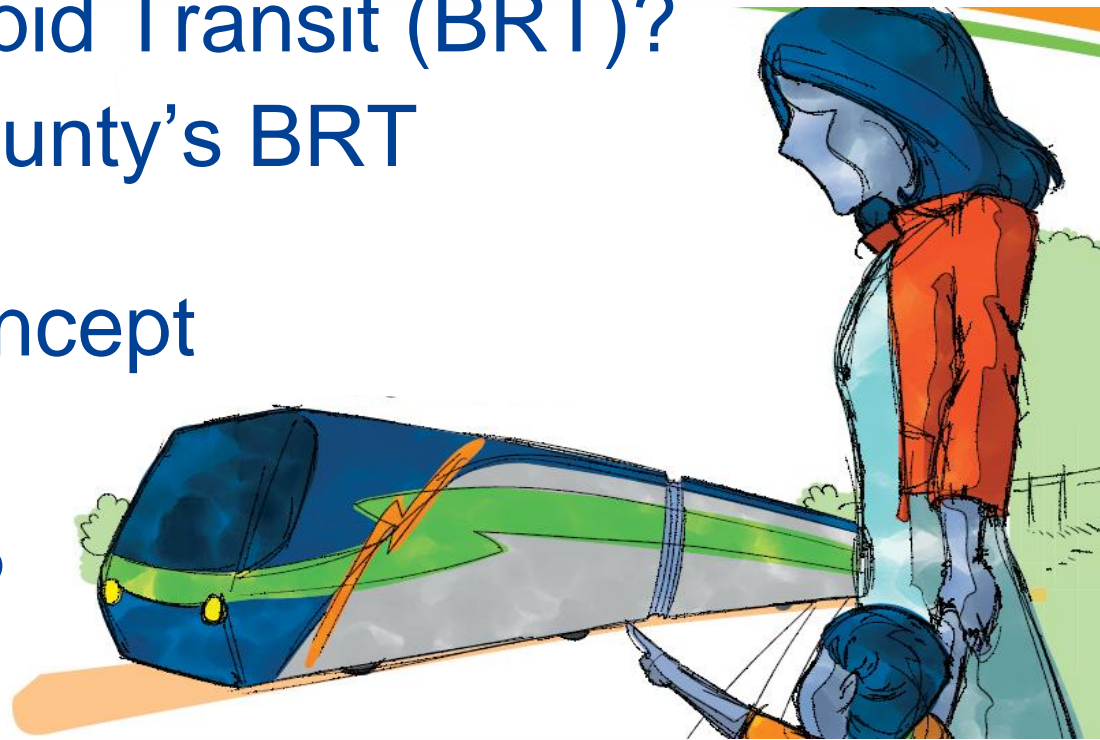
Bus Rapid Transit in Montgomery County

Presentation to the Transportation Planning Board
Technical Committee

June 1, 2018

Agenda

- What is Bus Rapid Transit (BRT)?
- Montgomery County's BRT Network Vision
- BRT Station Concept
- BRT on US 29
- BRT on MD 355
- Q&A



What is Bus Rapid Transit (BRT)?

Bus-based rapid transit system with additional features to improve reliability and capacity:

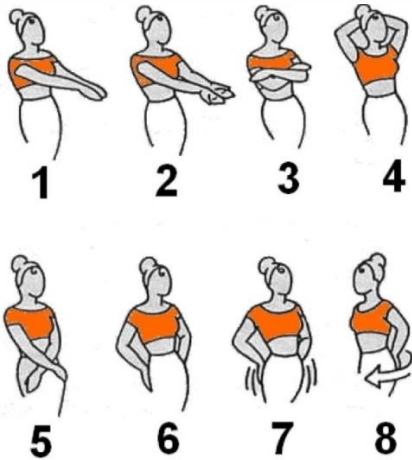
- Dedicated lanes where feasible
- Frequent and reliable all-day service
- Off-board fare collection
- Level boarding through all-doors
- Intersection improvements
- Enhanced stations with real-time transit information



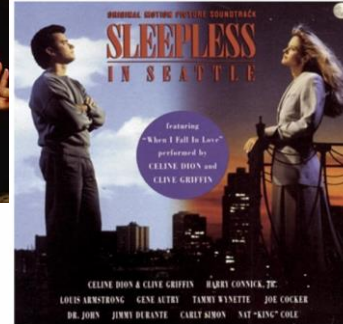


Montgomery County's Vision for a BRT Network

1993: A Big Year



MACARENA



1993 in Montgomery County

- 1993 Montgomery County Strategic Transit Plan proposed **BRT** as the most appropriate mode for improving transit on the County's busiest corridors.
- Impetus:
 - Worsening traffic with no apparent solution using traditional auto-oriented strategies
 - Opportunity to grow differently and support emerging clustered, walkable development
- **Goal: Expand and improve transportation choices**

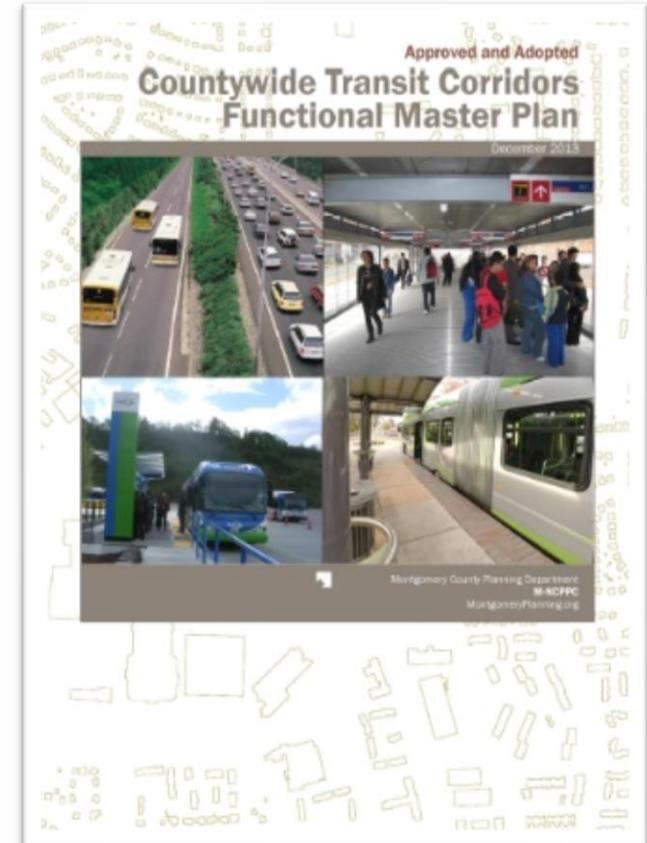
25 Years in...

- BRT implementation has not been a linear progression.
- However, momentum has grown as **transportation and land use plans** over multiple decades have confirmed and reinforced the need for additional transit options.



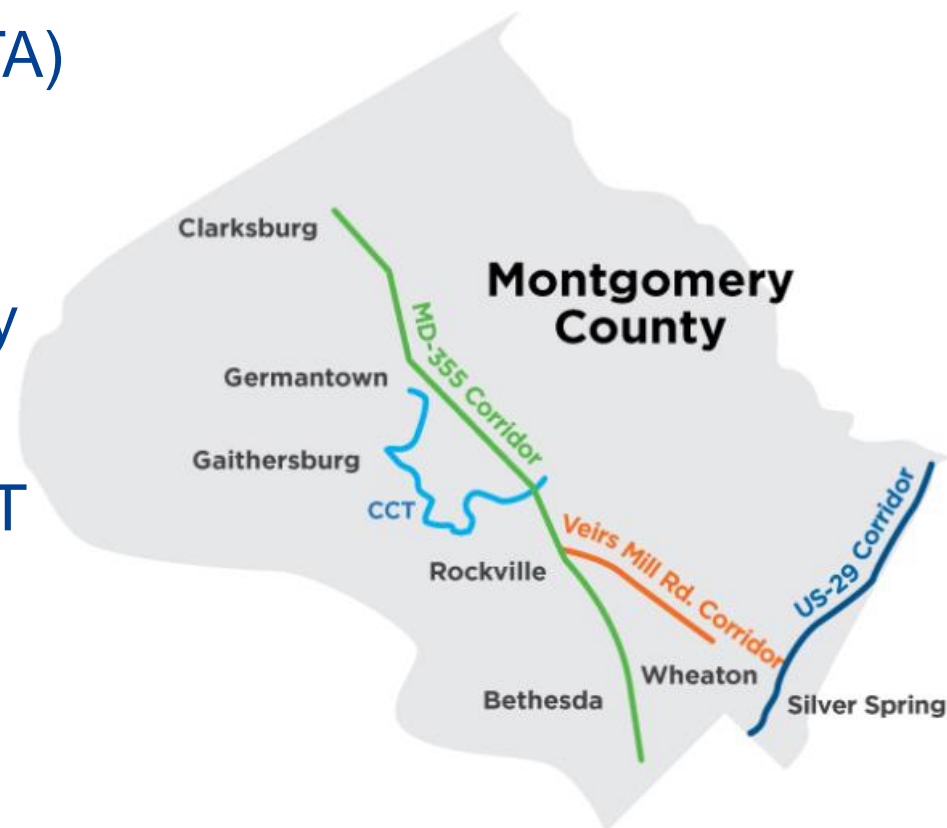
BRT in Montgomery County

- Countywide Transit Corridors Functional Master Plan, 2013
 - **102-mile** BRT Network, 9 Corridors
 - Establishes Right of Way
- Focus has been on a network of connected BRT corridors providing high frequency service throughout the County



Implementation

- Maryland DOT (SHA and MTA) led the conceptual planning for four of the BRT corridors
 - Corridor Cities Transitway (CCT)
 - MD 586 Veirs Mill Rd BRT
 - US 29 BRT
 - MD 355 BRT
- US 29 and MD 355 transitioned to MCDOT



Where Are We Now?

Four active BRT projects

- **County-led**
 - **US 29** (Colesville Road/ Columbia Pike) in design
 - **MD 355** (Wisconsin Avenue/ Rockville Pike) alternatives analysis underway
- **State-led**
 - **Corridor Cities Transitway** preliminary design complete
 - **MD 586** (Veirs Mill Road) Recommended Alternative selected





BRT Station Concept

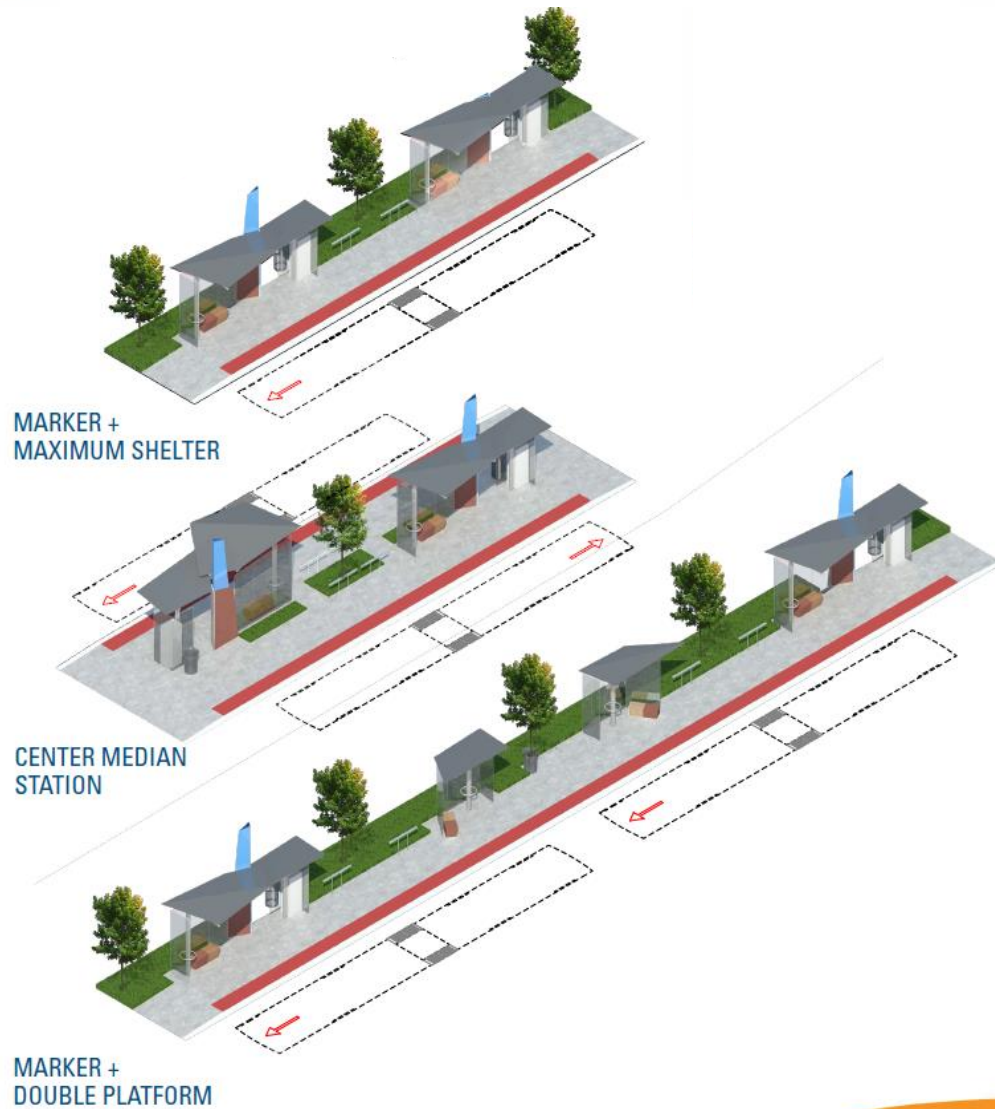
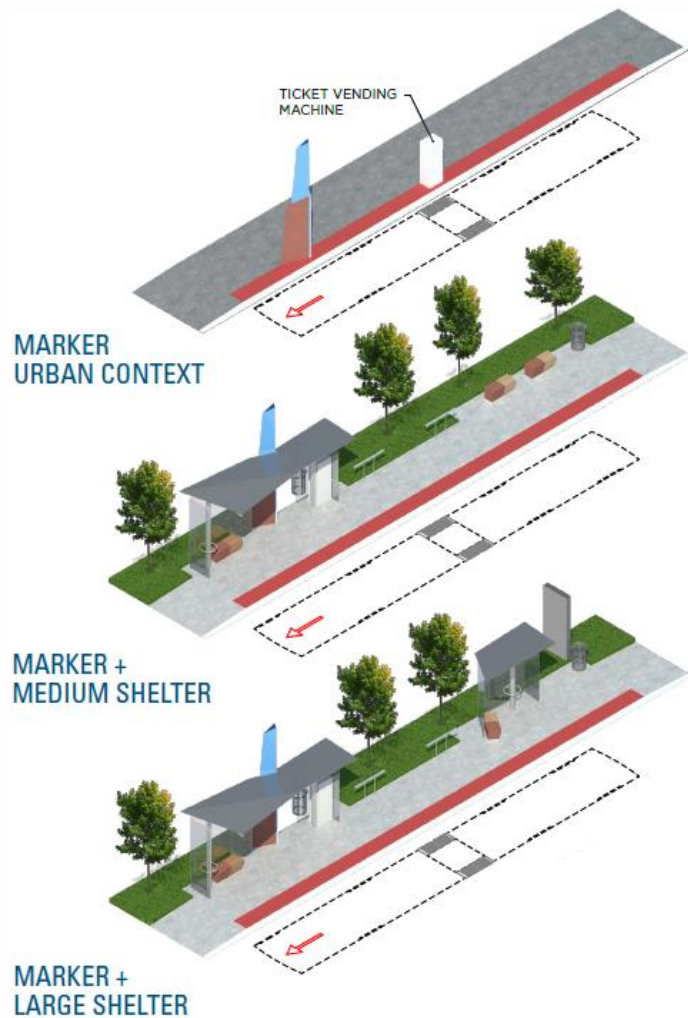
Resulted from MWCOG TLC Grant

Station Design

- Easy to Find and Use
- Accessible
- Safe and Comfortable
- Adaptable and Context Sensitive
- Maintainable
- A Good Life-Cycle Investment



Modular, Scalable Stations



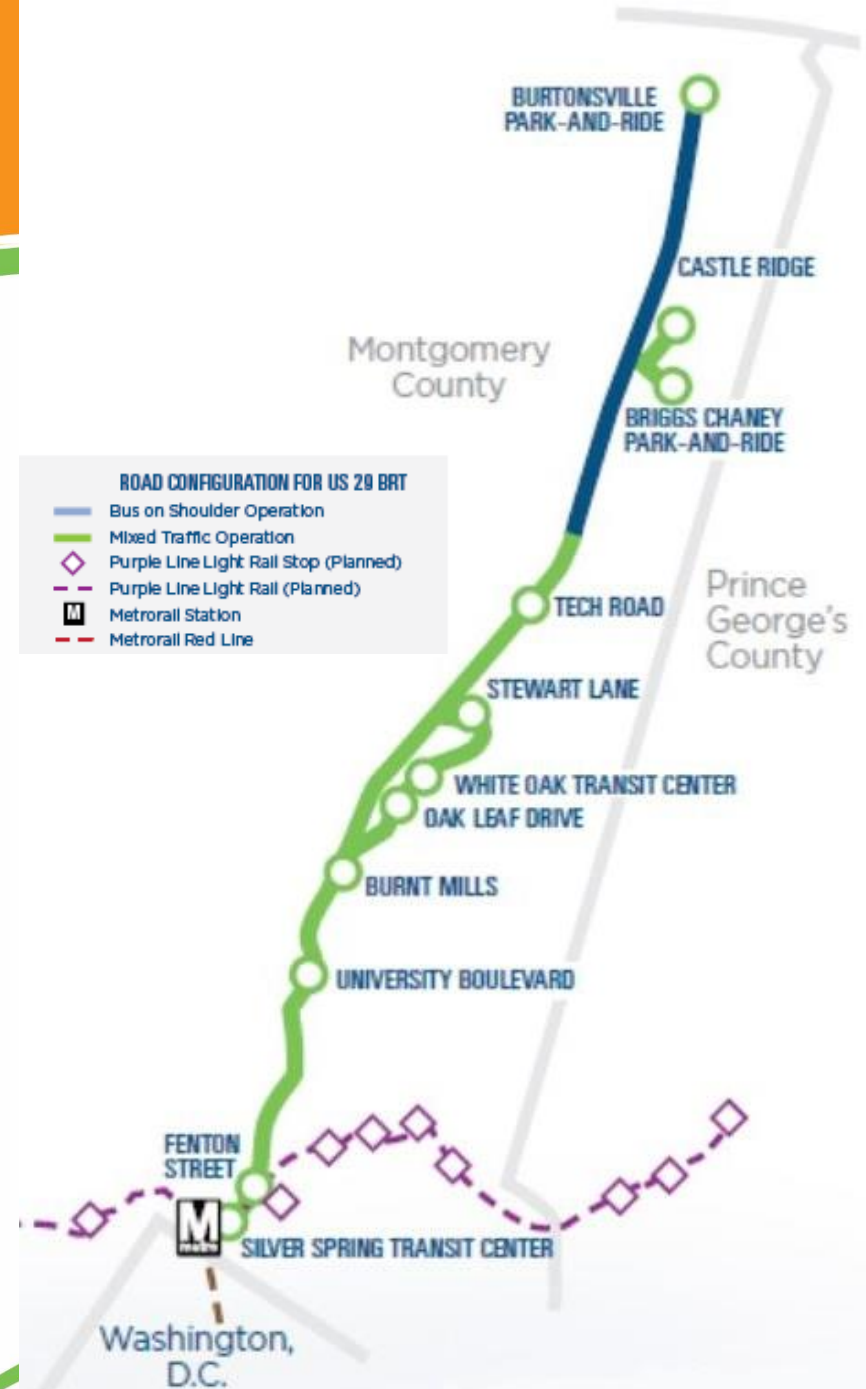
Station Concept



BRT on US 29

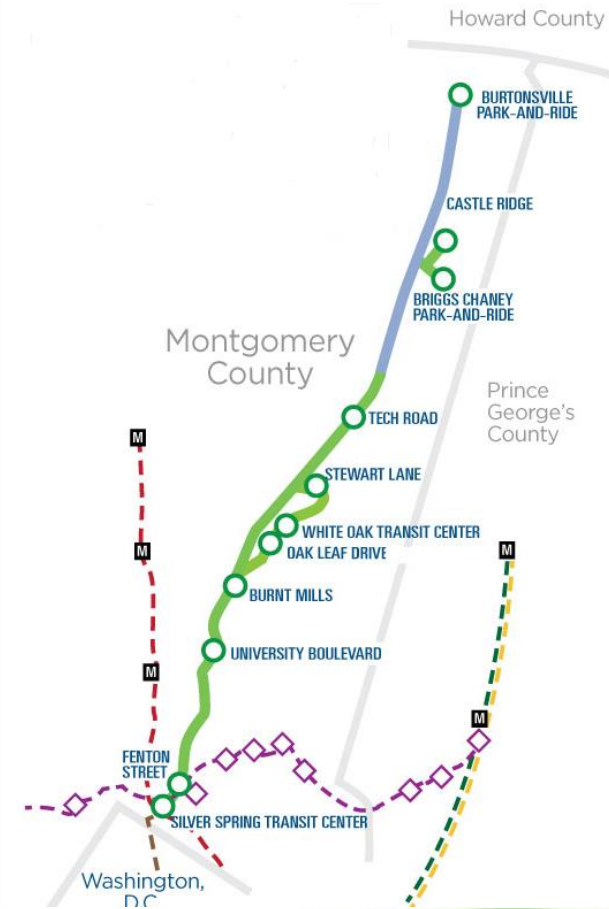
BRT on US 29

- 13.5 miles from the Silver Spring Transit Center to Burtonsville
- Two service patterns: one from Burtonsville to Silver Spring, and the other from Briggs Chaney to Silver Spring
- Frequent all-day service
 - 7 days/week
 - Same hours as Metrorail
 - 7.5 minutes peak; 15 minutes off-peak
- Local bus services will integrate and connect to the high-frequency BRT network



US 29 BRT

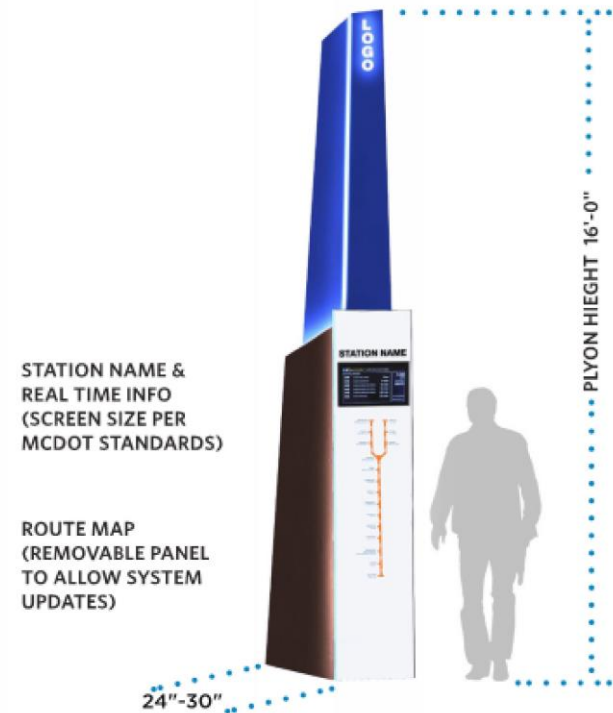
- Frequent all-day service
- Uniquely branded vehicles and stations
- Transit Signal Priority (TSP)
- Bike/pedestrian improvements to facilitate station access, including 10 new bikeshare stations



US 29 BRT - Stations

- 12" high platforms for near level boarding
- Ticket vending machines
- Canopies and windscreens
- Station marker with real time arrival
- Benches, landscaping, trash cans, bike racks
- Public Art

STATION MARKER



US 29 BRT Arts on the Block

- Art program for local youth to work on real-world projects
- Gather input from the community
- Produce pavement mosaics for the stations
- Special non-slip tiles
- Mosaics are inlaid into platform to meet ADA



**Arts
on the
Block**



US 29 BRT – Schedule and Budget

- Project Schedule

2017 to late **2018**

late **2018** to late **2019**

early **2020**

PROJECT DESIGN

PROJECT IMPLEMENTATION

BEGIN OPERATIONS

- Project Budget

BRT STATIONS
\$13,000,000

TRANSIT SIGNAL PRIORITY
\$1,000,000

VEHICLES
\$14,000,000

**BIKE & PEDESTRIAN
IMPROVEMENTS**
\$2,000,000

**OVERHEAD & GRANT
ADMINISTRATION**
\$1,500,000

FEDERAL TIGER FUNDS
\$10,000,000

COUNTY CONTRIBUTION
\$21,500,000

Additional \$6.5M for planning and design.

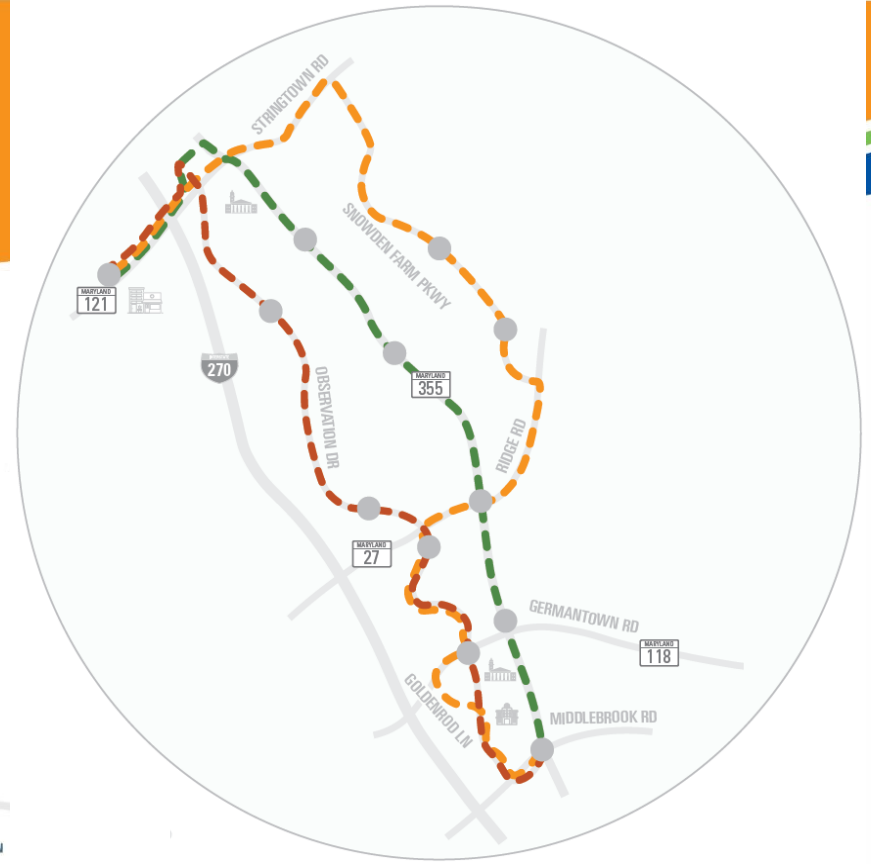
Costs are estimated

US 29 BRT - Project Delivery

- Montgomery County's first Construction Manager at Risk (CMAR)
- Qualifications packages have been submitted to the County
- Selection of a Contractor for pre-construction services
- Value engineering
- Guaranteed maximum price at 85% design
- Execute construction contract

BRT on MD 355

MD 355 BRT Corridor



MD 355 BRT STUDY

- Potential BRT Station Location
- Alignment for Alternative A (Clarksburg Outlets to Snowden Farm Parkway to Ridge Road to Observation Drive to Middlebrook Road)
- Alignment for Alternative B (Clarksburg Outlets to Observation Drive to Middlebrook Road - including unbuilt portions of Observation Drive)
- Alignment for Alternative C (Clarksburg Outlets to Middlebrook Road via MD 355)
- BRT route from Bethesda Metro station to Middlebrook Road
- Metrorail Red Line
- M Metrorail Station
- Purple Line (planned)

- 22 miles long
- From Clarksburg to Bethesda

MD 355 BRT Alternatives

Alternative

No-Build Alternative

Transportation Systems Management (TSM) Alternative

Alternative A

Mixed Traffic with BRT Features

Alternative B

Mostly **Median-Running**

Alternative C

Mostly **Curb-Running**

Build Alternatives (A, B, and C) all include: Queue jumps, additional TSP, off-board fare collection, level boarding, new BRT vehicles, upgraded stations, and Flash branding.

MD 355 BRT Goals and Measures

GOALS



PROVIDE AN APPEALING, FUNCTIONAL, AND HIGH QUALITY TRANSIT SERVICE

- Reduce travel times
- Increase service reliability
- Increase ridership
- Be a user-friendly route
- Complement Metrorail and local bus service



IMPROVE MOBILITY OPPORTUNITIES, ACCESSIBILITY, AND TRANSPORTATION CHOICES FOR ALL

- Improve access to jobs and other destinations
- Minimize traffic impacts and use roadway space efficiently
- Improve bicycle and pedestrian facilities
- Improve service and increase transit options for everyone



SUPPORT MASTER PLAN DEVELOPMENT

- Improve transit service to existing and planned developments
- Locate stations to support walkability



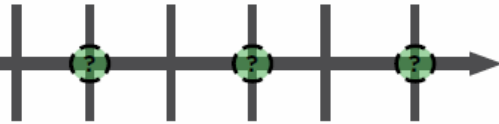
SUPPORT SUSTAINABLE AND COST-EFFECTIVE TRANSPORTATION SOLUTIONS

- Minimize environmental, cultural, and property impacts
- Use practical design to minimize capital and operating costs

Station Screening

Potential Stations

Multiple studies have identified potential locations.



Level 1 Screening

Does this location have the elements of a successful station?



Level 2 Screening

Would a station fit in this location and where should it be sited?



STUDIES

- Countywide Transit Corridor Functional Master Plan
- City of Gaithersburg MD 355 BRT Study
- Rockville BRT Town Center Integration Study
- MD 355 BRT Phase I Study

STAKEHOLDER SUGGESTIONS

- Corridor Advisory Committees
- Open Houses
- Agency Comments

RIDERSHIP

- Existing bus ridership and forecasted BRT ridership

LAND USE

- Existing land use and master planned development

PEDESTRIAN AND BICYCLE CONNECTIONS

- Proximity to infrastructure, existing and planned

TRANSIT CONNECTIONS

- Proximity to other services, existing and planned

STREET NETWORK

- Signalization, volumes, crash data, stop spacing

GEOMETRY

- Adequate street design, horizontal curvature, vertical grades

SPACE CONSTRAINTS

- Sufficient roadway width and length for station (right of way)

TYPE OF STATION AND PLACEMENT

- Median or curbside, stop spacing

TRANSIT CONNECTIONS

- Ability to accommodate transfers or layovers

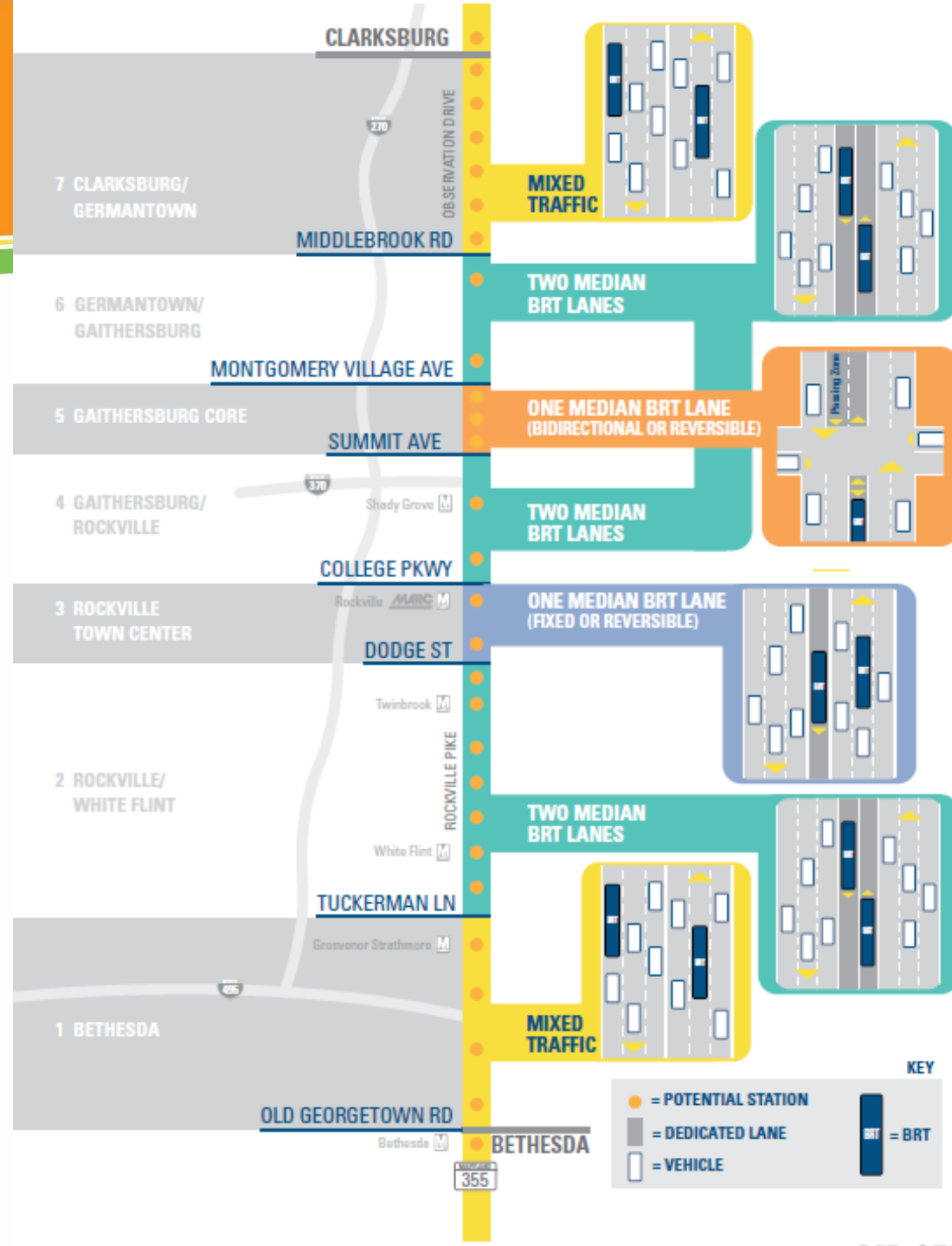
PEDESTRIAN AND BICYCLE CONNECTIONS

- Quality of infrastructure, existing and planned

STATION SELECTION

Engineering Challenges

- Diverse and widely different corridor
- Multiple stakeholders
- Right-of-way
- Stormwater
- Utilities

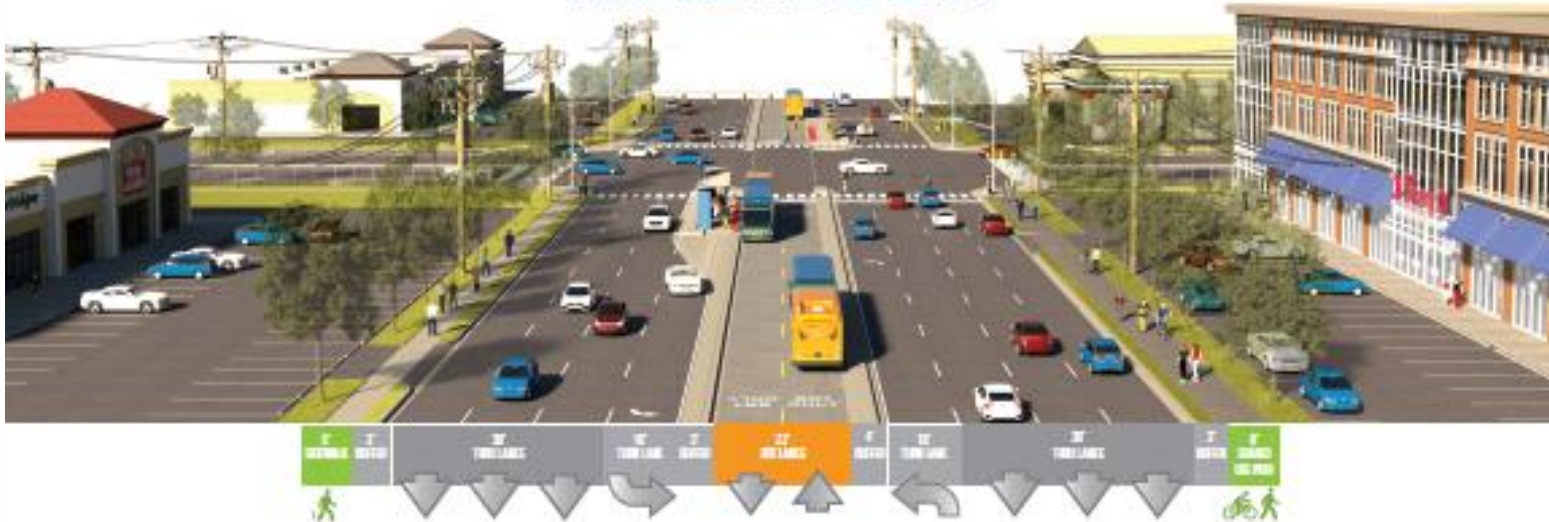


Engineering – “Atypical” Sections

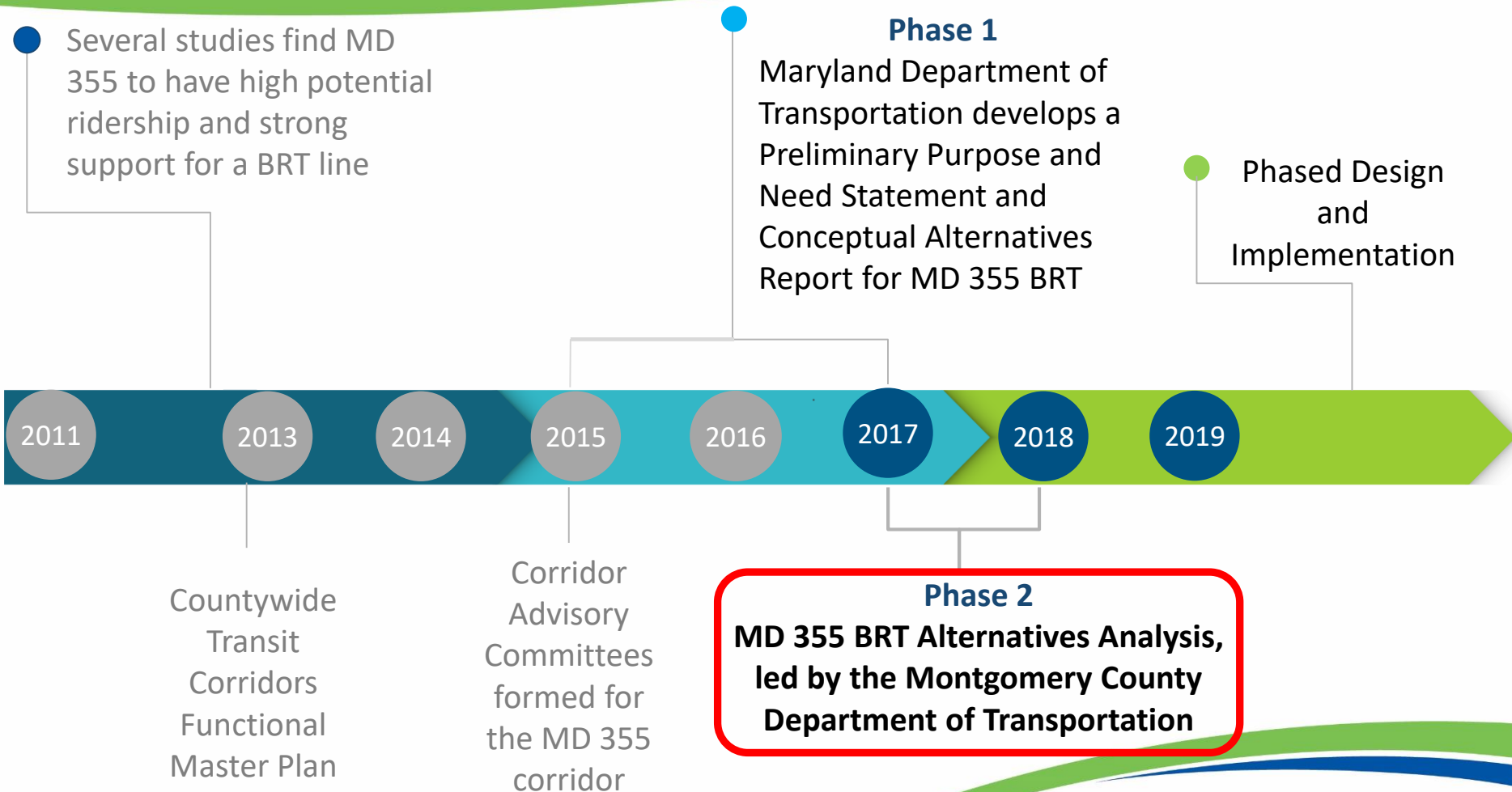
MAXIMIZED TYPICAL SECTION



MINIMIZED TYPICAL SECTION



MD 355 BRT Project Timeline



Status of other Montgomery County BRT Projects

- **Corridor Cities Transitway**
 - Project led by MDOT-MTA
 - At 35% design; funding uncertain for final design and construction
 - MWCOG TLC grant to look at short-term transit options
- **Veirs Mill Road (MD 586) BRT**
 - Project led by MDOT-SHA
 - Recommended Alternative reached in 2017
 - County CIP includes funding for final design starting in FY23
 - Project is one of County's Chapter 30 submissions for MDOT funding

Status of other Montgomery County BRT Projects (cont'd)

- New Hampshire Avenue BRT
 - County CIP includes planning funds for FY21-23
 - 3 years anticipated to reach Recommended Alternative
- North Bethesda Transitway
 - County CIP includes planning funds for FY23-24
 - 2 years anticipated to reach Recommended Alternative



Questions?

Contacts

Joana Conklin – BRT Program Manager, MCDOT

- Joana.Conklin@montgomerycountymd.gov
- (240) 777-7195

Corey Pitts, AICP – BRT Project Manager (US 29 & MD 355), MCDOT

- Corey.Pitts@montgomerycountymd.gov
- (240) 777-7217