Montgomery County RAPID TRANSIT

MD 586

Veirs Mill Road
CAC Meeting #9
June 14, 2017

MARYLAND DEPARTMENT OF TRANSPORTATION

MCDOT
Montgomery County Department of Transportation

Purpose of Tonight's Meeting

- Recap Meeting #8
- Review alternatives
- Provide a project update
- Review additional analysis that was performed after the Draft Corridor Study Report (DCSR)
- Review the County's recommended alternative
- Review the Prototypical Station Design
- Questions/comments

Meeting #8 Recap (9/14/16)

- Reviewed Draft Corridor Study Report
- Reviewed alternatives comparison matrix for Alternatives 1, 2, 3, and 5B
  - Expected ridership
  - Travel times
  - Cost
  - Traffic operations
  - Environmental impacts
- Previewed materials for Public Meeting on 9/28/16

Review of Alternatives

- Alternative 1: No-build
- Alternative 2: Queue jumps with enhanced bus service
- Alternative 3: Dedicated curb lanes with new BRT service
- Alternative 5B: Dedicated median lanes with new BRT service

Transit/Traffic Modeling Results and Costs

- All build alternatives increased transit ridership in the corridor
- BRT service and amenities (Alt 3 and 5B) attracted more riders than Enhanced Bus (Alt 2)
- All build alternatives improved 2040 transit travel times over the No-build (by as much as 15 minutes along EB in the PM peak hour)
- Among the build alternatives, there were only minor differences in 2040 transit travel times
- Capital cost estimates
  - Alternative 2: $35M
  - Alternative 3: $148M
  - Alternative 5B: $289M

Public Meeting Recap (9/28/16)

- Public outreach consisted of flier distribution at metro/bus stops, postcard mailing, social media announcements, printed/online ads, PSAs, and a news release
- Presented alternatives comparison matrix for Alternatives 1, 2, 3, and 5B
- Presented engineering alignments for Alternatives 2, 3, and 5B
- 35 attendees

Public Input

- 33 comments were received from the public on the Draft Corridor Study Report or at the Public Meeting
  - 21 emails
  - 9 comment cards at Public Meeting
  - 2 stenographer-recorded comments at Public Meeting
  - 1 mailed letter

	For Alt. 2	For Alt. 3	For Alt. 5B	For Alt. 1/2	For Alt. 2/3	For Alt. 3/5B	For BRT	Against BRT	Unclear/ Unrelated	TOTAL
Number of Comments	1	2	2	2	1	1	12	8	4	33

Stakeholder Input

- Project team briefed Rockville Mayor and Council (10/10/16 and 11/21/16), Montgomery County Planning Board (11/3/16), and T&E Committee of County Council (12/1/16)
- Rockville, WMATA, and the Montgomery County Planning Board all supported Alternative 3
- Additional comments provided by Mid-County Citizen's Advisory Board and the Wheaton Urban District Advisory Committee via letter

Briefing to County Council T&E Committee

(December 2016)

T&E: Transportation, Infrastructure, Energy, and Environment

Conclusion:

- Alt. 5B (median BRT) is not preferred due to the high cost and lack of travel time benefit, as compared to other build alternatives

Follow-Up Questions:

- How would a new scenario that contains the infrastructure improvements of Alternative 2 (queue jumps) and the service improvements of Alternative 3 (BRT) operate? How much would it cost?

New Analysis: Alternative 2.5 (BRT with Queue Jumps)

- Runningway (same as Alt 2): queue jumps at select intersections; use existing lanes with mixed traffic otherwise; no change to service roads
- BRT service (same as Alt 3 – curb BRT):
  - Headways 6 min. in peak, 10 min. in off-peak
  - Transit Signal Priority (TSP)
  - 12 new BRT stations
  - Off-board fare collection
  - 60’ articulated buses
- Assumed Daily BRT Boardings in 2040 (same as Alt. 3 – curb BRT): 6,400

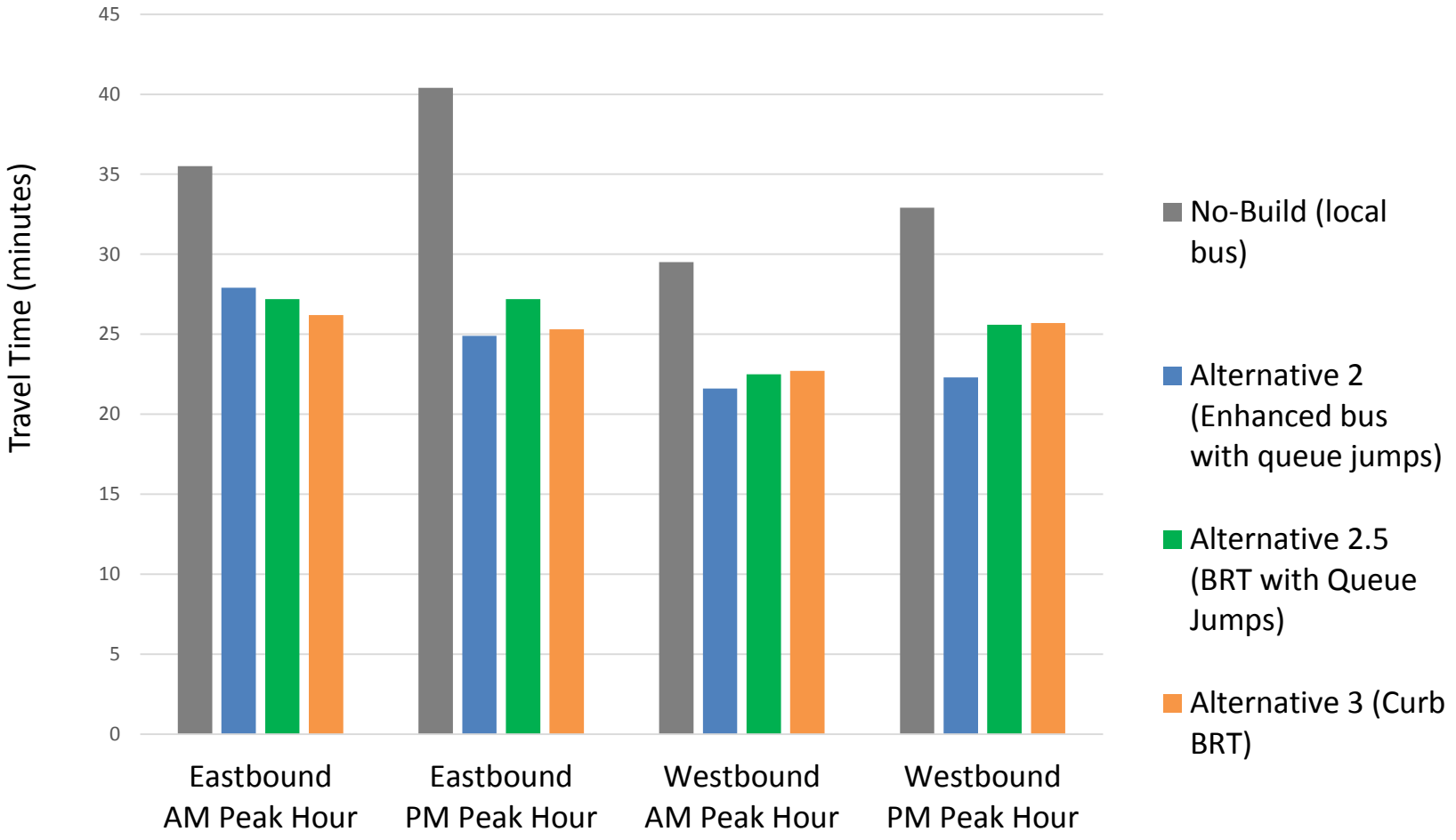
Transit Service Descriptions

	Enhanced Bus Service	New BRT Service
Alternatives	• Alt. 2 (Queue Jumps)	• Alt. 3 (Curb BRT) • Alt. 2.5 (BRT with Queue Jumps)
Headway (Peak)	12 minutes	6 minutes
Headway (Off-Peak)	15 minutes	10 minutes
Daily Bus Trips	79 express bus trips	136 BRT trips
Vehicle Length	40’	60’ Articulated
Stops	Upgrades to the existing bus stops	New BRT stations
Projected 2040 Daily Boardings	2,600	6,400

Projected Transit Travel Times

- Many factors affect transit travel times:
  - Dedicated lanes
  - Transit Signal Priority (TSP)
  - Number of stops
  - Location of stops (near-side v. far-side)
  - Number of passengers
    - Dwell time at stations
    - Pedestrian activity at the intersections

Projected 2040 Peak Hour Transit Travel Times



Costs (in millions)

	Alt. 1 (No-Build)	**Alt. 2** (Enhanced bus with queue jumps)	**Alt. 2.5** (BRT with Queue Jumps)	**Alt. 3** (Curb BRT)
Right-of-Way (ROW)	-	$6	$11	$13
Engineering and Construction	-	$23	$52	$119
Vehicles	-	$5	$17	$17
Total Capital Cost	**-**	**$35**	**$80**	**$148**
Annual Cost to Operate System	-	$3	$5	$5

Findings of New Analysis for Alt. 2.5

- Provides the same travel time savings in the **westbound** direction as dedicated curb lanes (Alt. 3)
- Operates 1 to 2 min slower in the **eastbound** direction than dedicated curb lanes (Alt. 3)
- Has the potential to attract 2.5 times more (6,400 v. 2,600) daily riders than enhanced bus service (Alt. 2 - queue jumps)
- Provides a greater time savings by serving more riders than Alternative 2
- Provides less time savings in the eastbound direction and equal time savings in the westbound direction than Alternative 3
- Costs $80M to design and build, which is $44M more than Alternative 2 and $69M less than Alternative 3
- Veirs Mill Road is a major east-west connection between other planned north-south BRT lines. If the north-south lines are constructed the benefit of BRT along Veirs Mill Road could increase

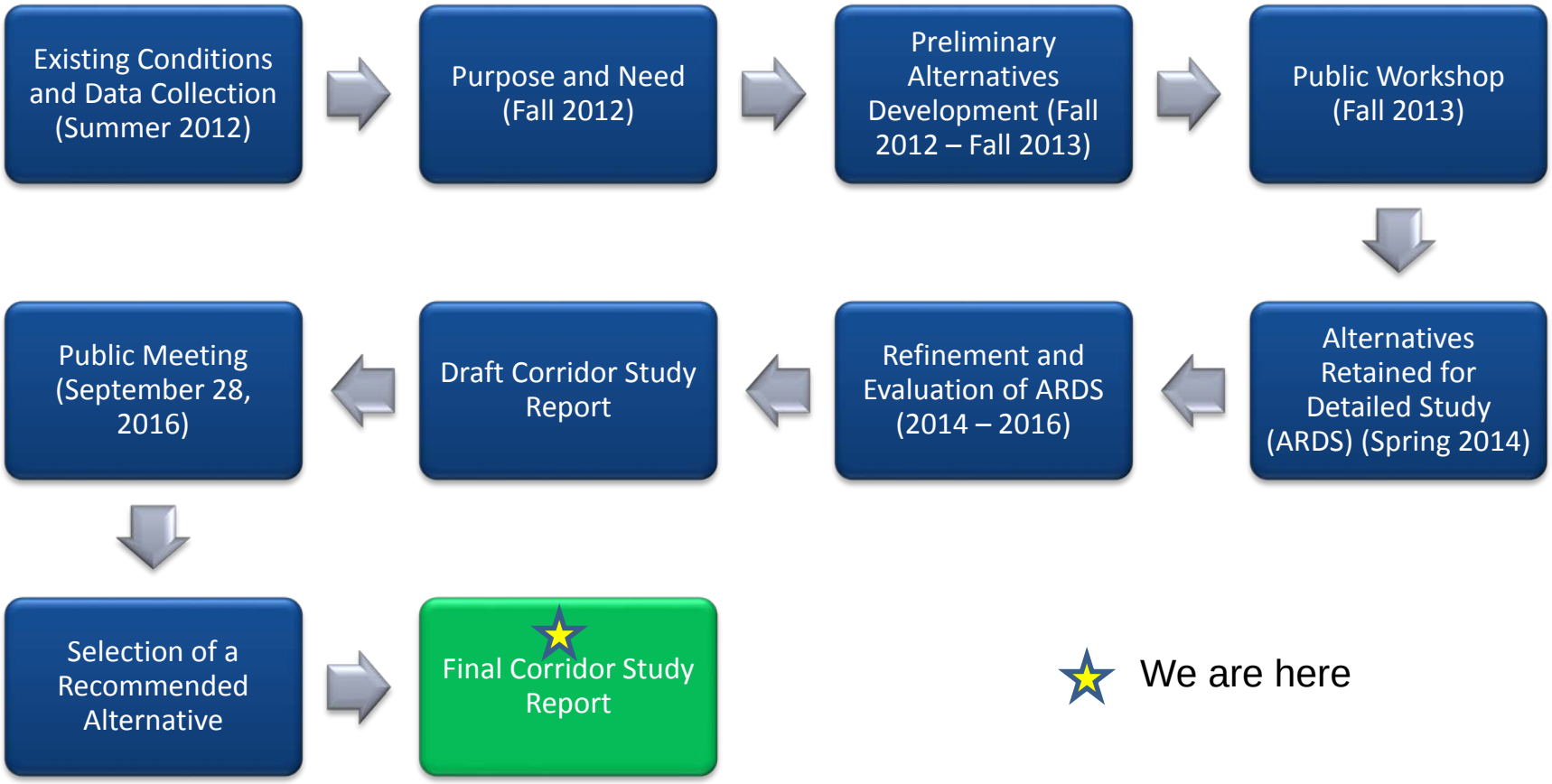
Recommended Alternative

- T&E Committee of County Council voted to support Alternative 2.5 on 5/3/17
- County Council voted on a resolution to select Alternative 2.5 as the recommended alternative on 6/13/17, with Alternative 3 retained as the long-term Master Plan option
- Dedicated curb lanes are consistent with the Master Plan vision for the County's BRT network
  - Supported by the Montgomery County Planning Board, WMATA, and the City of Rockville
  - As the full BRT network is built, greater benefits may be achieved with dedicated lanes
  - Queue jumps would not preclude future construction of dedicated curb lanes
  - Keeping curb lane BRT as an option continues to allow for right-of-way dedication

Next Steps

- Project team will update Corridor Study Report with public comments, results of additional analysis, and recommended alternative
- If a funding source is determined, Alternative 2.5 could move forward into preliminary engineering
- All redevelopment along Veirs Mill Road will assume the future construction of Alternative 3
- Project is not currently funded to move into the next phase

Transit Project Planning Process



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MD 586
BRT Station Design

ZGF
ZIMMER GUNSUL FRASCA ARCHITECTS LLP

MCDOT
Montgomery County
Department of Transportation

Station Design - Background

MCDOT is designing stations for the County's future BRT network.

The stations will have **interchangeable, flexible components**, that can be adapted for all corridors.

This work is being done with a grant from the Metropolitan Washington Council of Governments' Transportation/Land-Use Connections Program, in partnership with architecture firm ZGF.

Station Design - Agenda

- Introduction – Design Goals
- Station Design - Best Practice Examples
- MCDOT BRT Stations – Types and Amenities
- Previous Community Input
- Design Opportunities – Local Materials & Sustainability
- The Station Family – Adaptation to Capacity and Context
- Questions & Comments

Station Design - Goals

1. Easy to Find and Use
2. Accessible
3. Safe and Comfortable
4. Adaptable and Context Sensitive
5. Maintainable
6. Good Life-Cycle Investment

Basic Rider Comfort =
User Information
Weather Protection / Rain and Wind
Seating

Station Design – Best Practices

SCALE, FORM, IMAGE & ENCLOSURE

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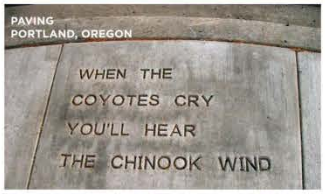
Station Design – Best Practices

MATERIAL

LIGHTING

PUBLIC ART



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Station Design - Types

STATION PLATFORM TYPES

There are two station platform types:

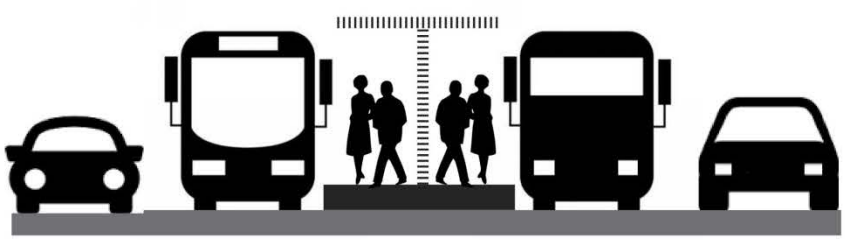
- Side-loading - which may be accessed directly from a sidewalk
- Center-loading - which may be located in a roadway median

SIDE-LOADING PLATFORMS

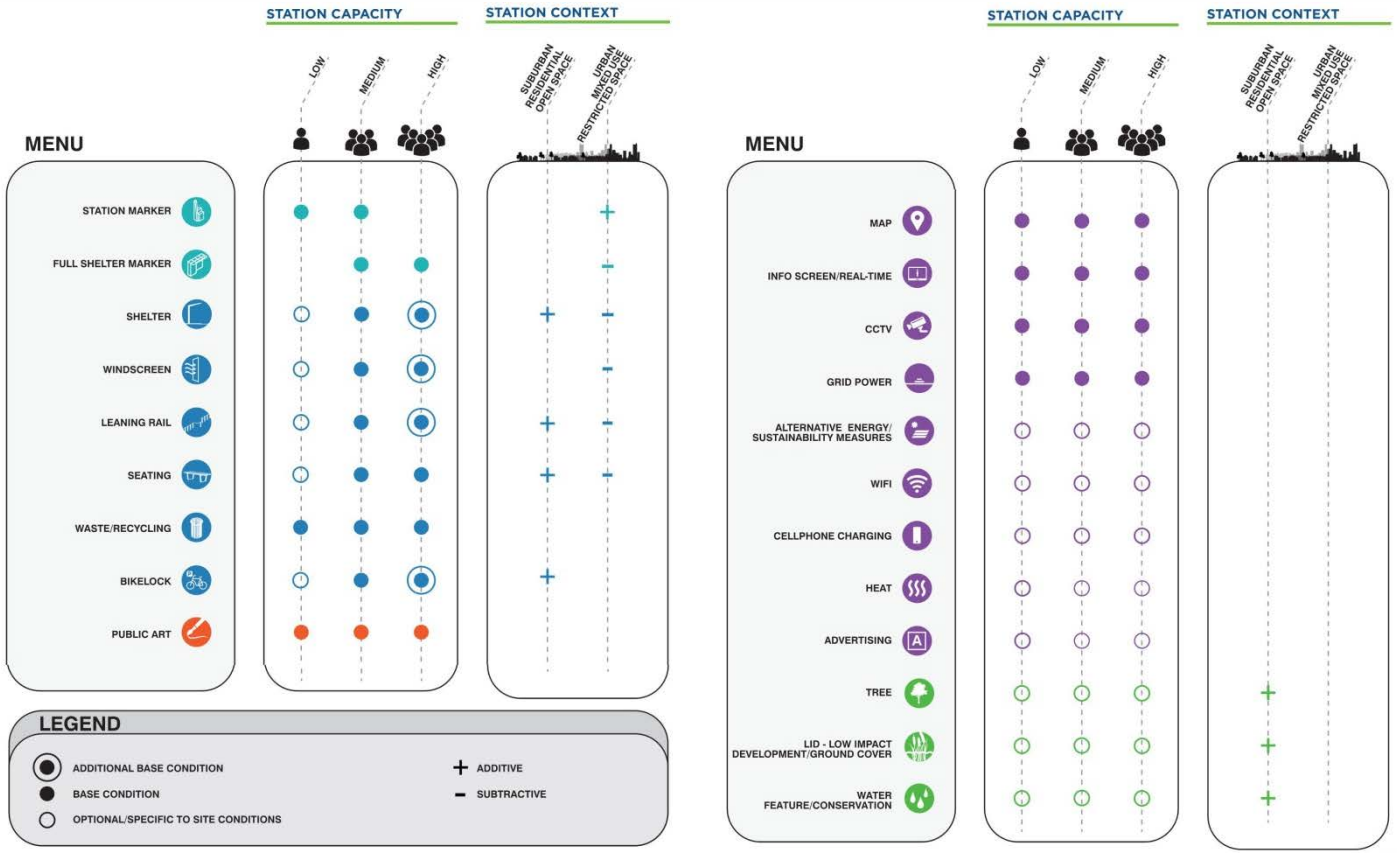
SECTION DIAGRAM

CENTER-LOADING PLATFORMS

SECTION DIAGRAM



Station Design – Amenities



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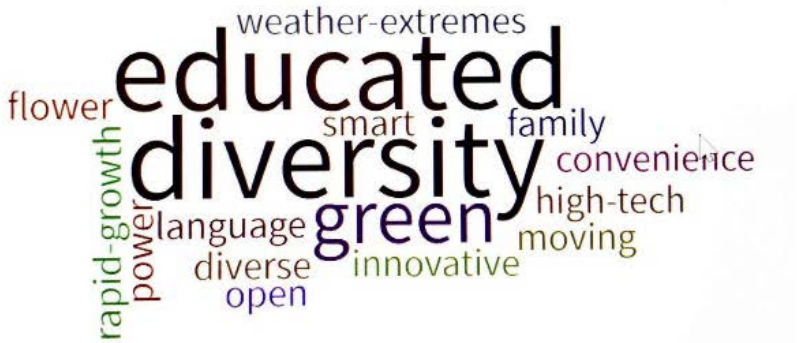
Station Design – Community Input

February 7
Open House
Germantown



February 8
Open House
Rockville

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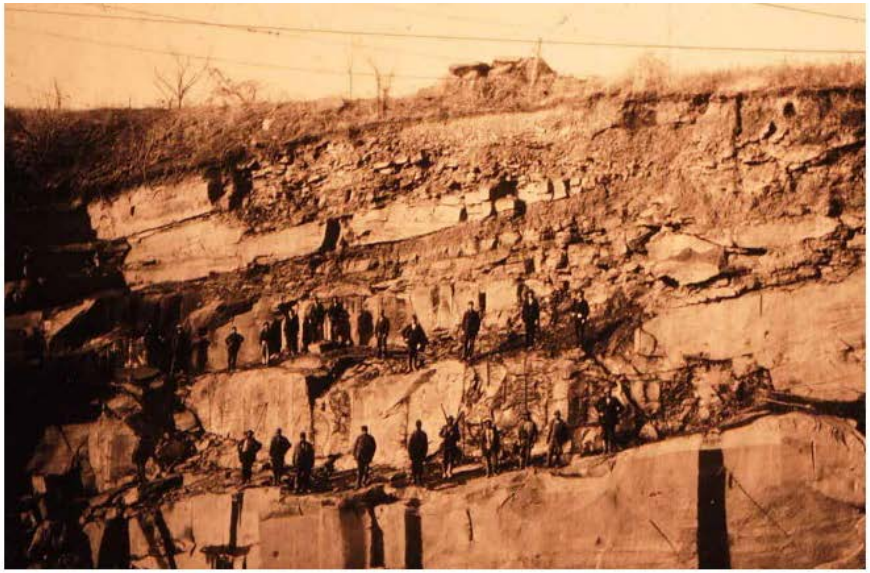
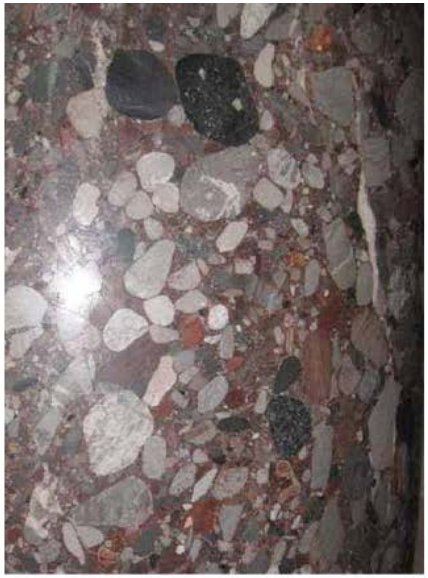
Design Features – Local Materials



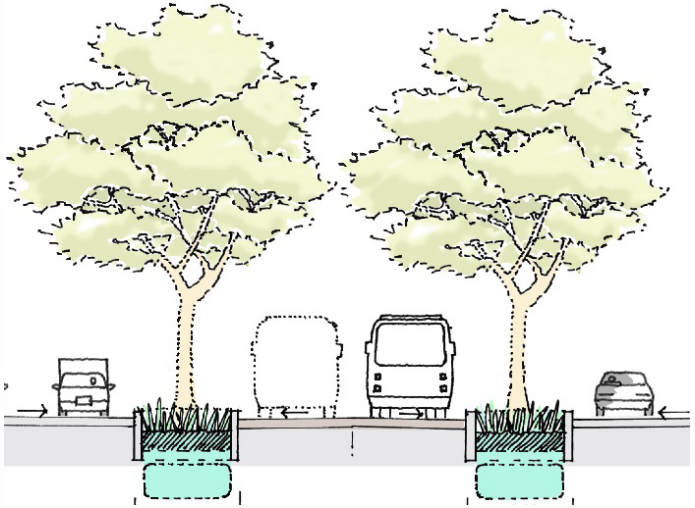


Historically Quarried Stone in Montgomery County

Seneca Red Sandstone (far left)
Sykesville Gneiss (left)
Potomac Marble (above)

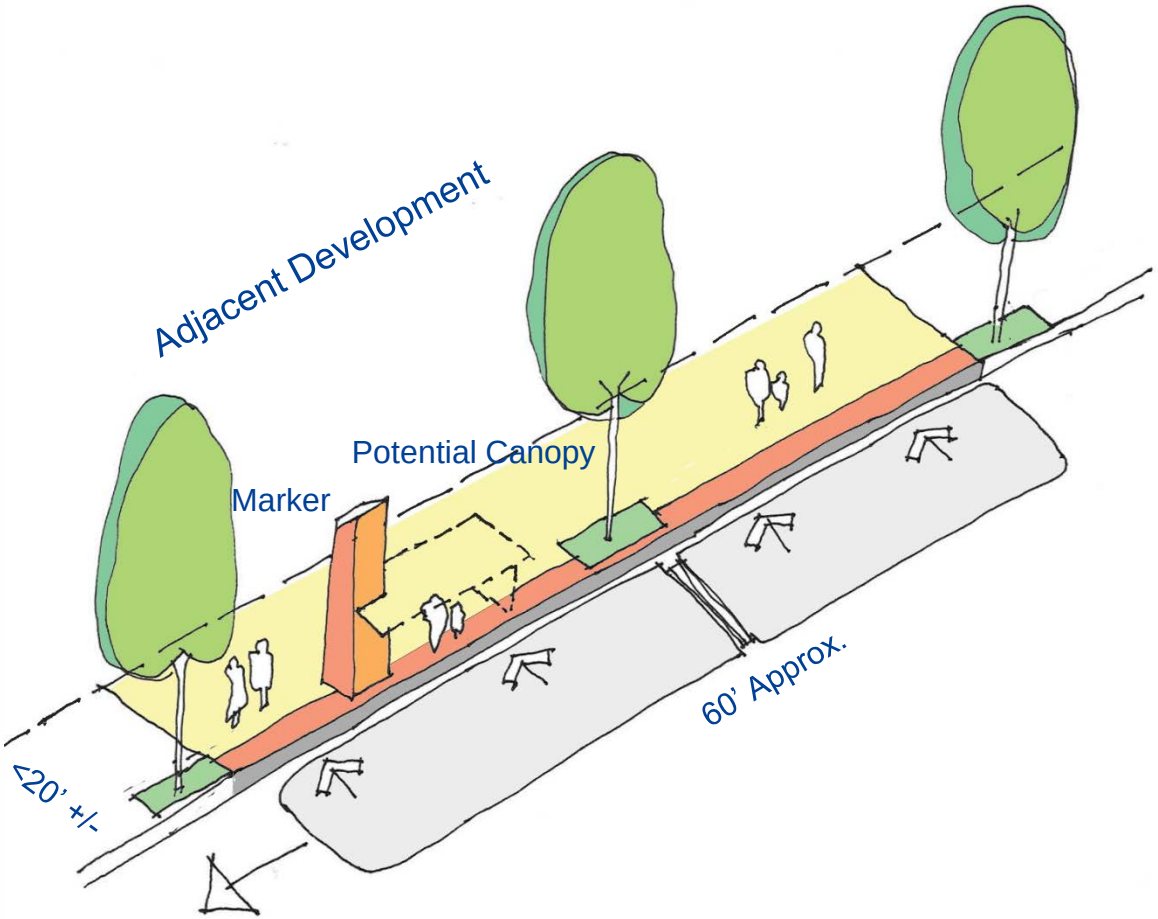
Design Features – Sustainability

Energy Production - PV



Stormwater Management & Enhanced Landscape

Station Family

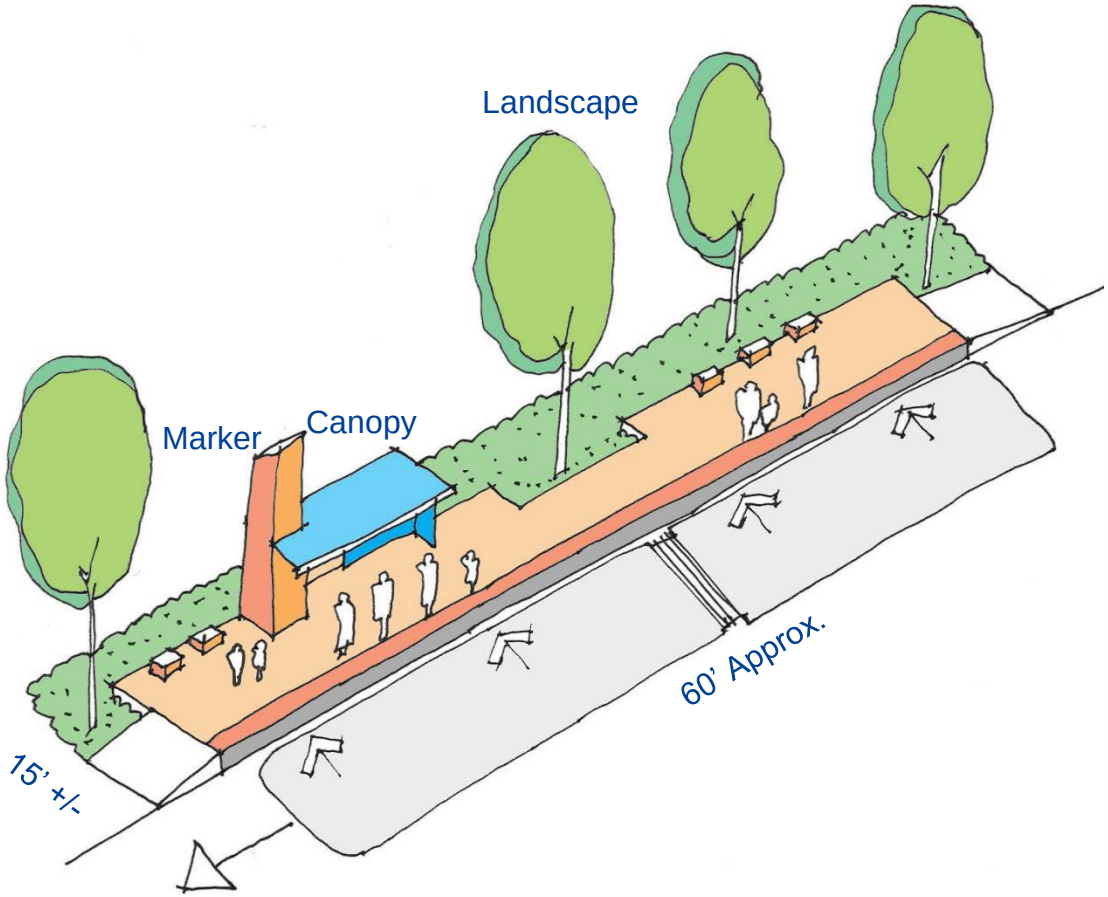


Type 1

Urban Streetfront – Shared Sidewalk

1 Marker +
1 Potential Small Canopy

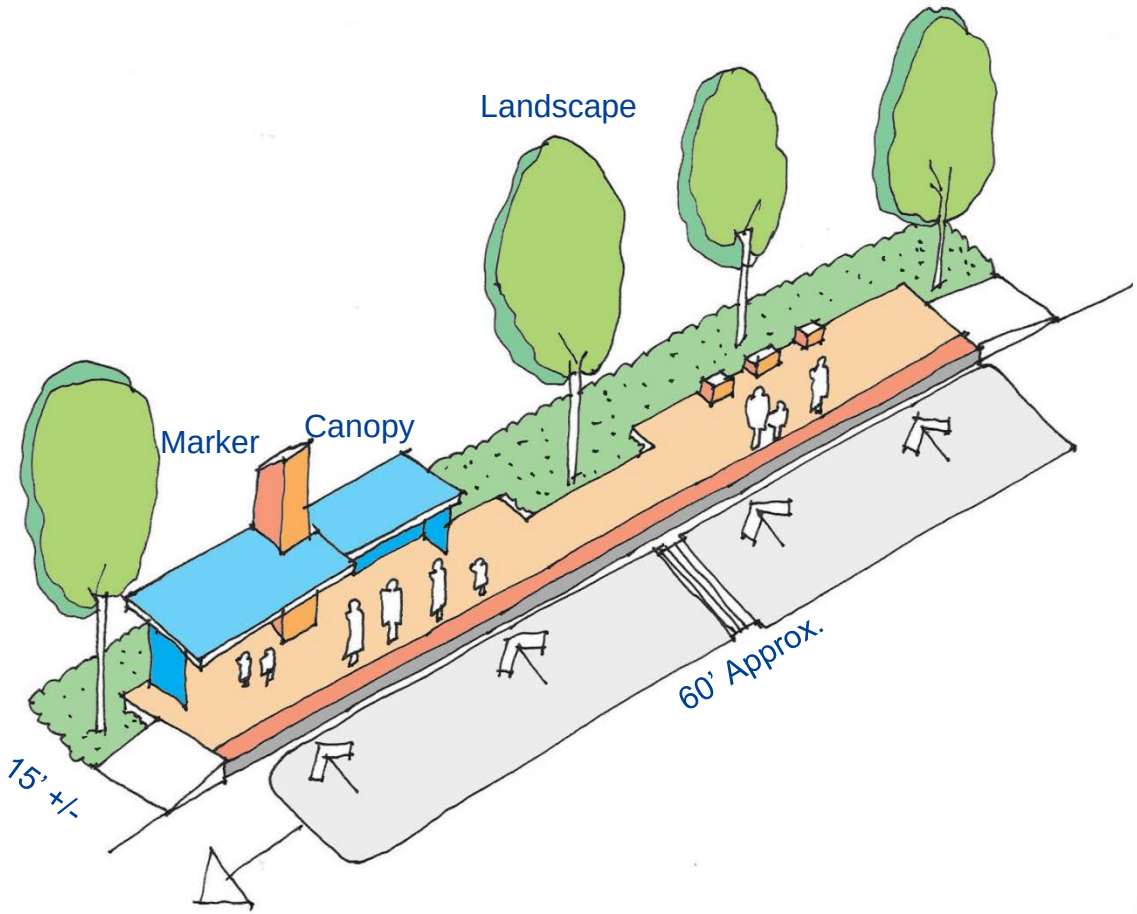
Station Family



Type 2

1 Marker +
1 Small Canopy
& Landscape

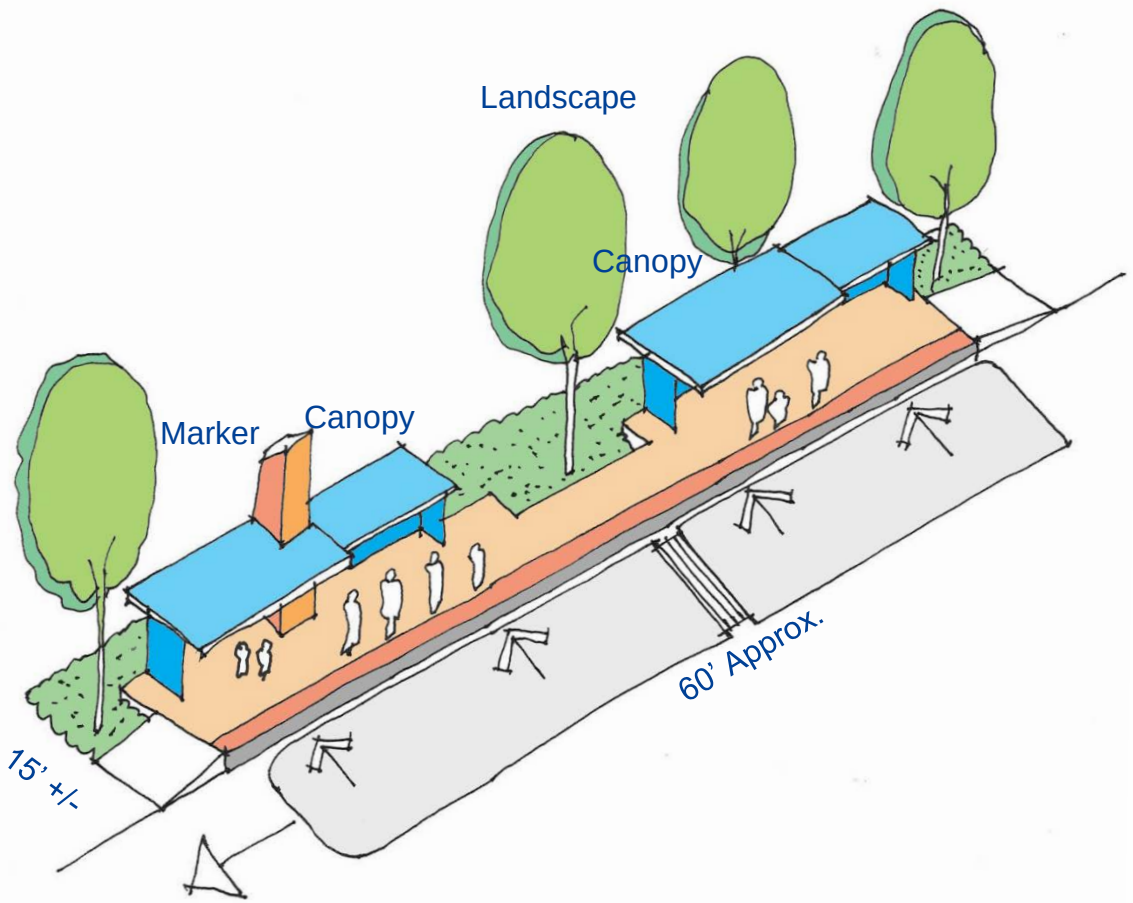
Station Family



Type 3

1 Marker +
1 Large Canopy
& Landscape

Station Family



Type 4

1 Marker +
2 Large Canopies
& Landscape

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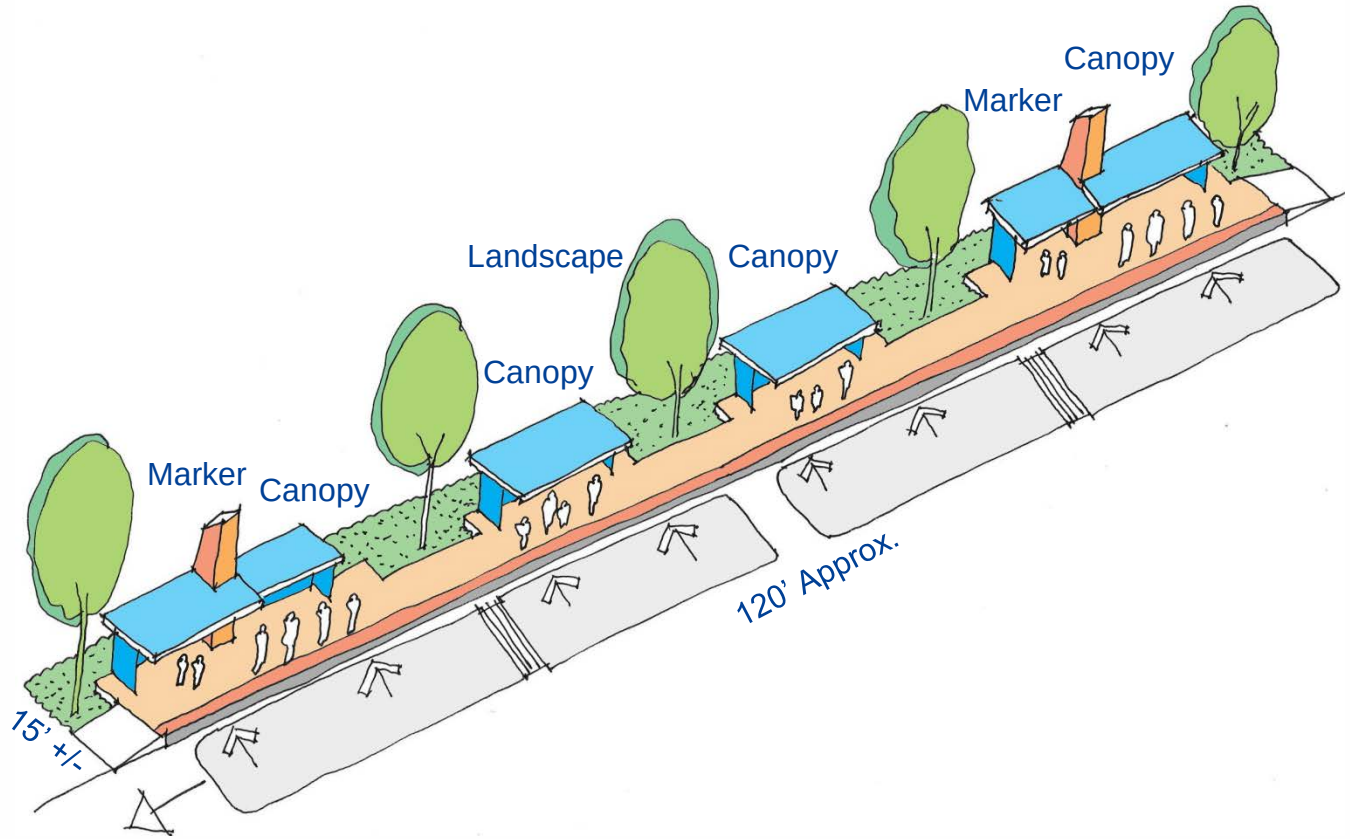
Station Family

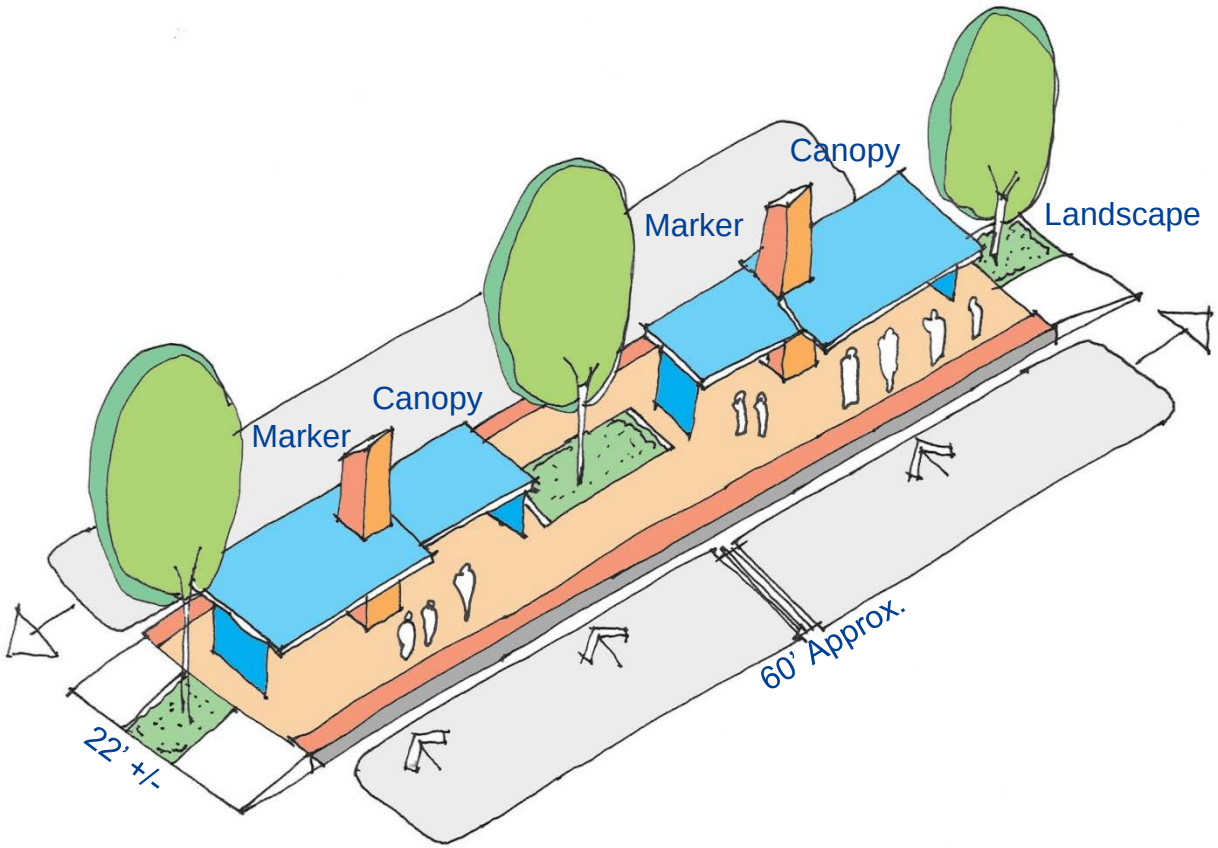


Type 5

Double Station –
High Capacity

2 Markers +
4 Canopies
& Landscape

Station Family



Type 6

Center Station

2 Markers +
2 Canopies
& Landscape

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BRT Station Design Questions / Comments?

ZGF

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Conclusion

- This is the last CAC meeting in this phase of the project
- CAC may continue in the next phase of the project (preliminary engineering)
- Thank you!