M-NCPPC SSP UPDATE

TRANSPORTATION IMPACT STUDY TECHNICAL WORKING GROUP (TISTWG) MEETING #4

December 9, 2019





AGENDA

- 1. Introductions
- 2. Project Scope Overview
- 3. Alternative Policy Area Tests
- 4. Vision Zero Integration into LATR
- 5. Discussion and TISTWG Input
- 6. TISTWG Schedule and Next Steps

DESIGN

SCOPE OVERVIEW

- Policy Area Test area-wide traffic impacts (master/sector plan review only)
 - **Project goal:** Better reflect increased travel mode alternatives (as opposed to traditional Level of Service [LOS] metrics)
- LATR Test local traffic conditions (subdivision review)
 - Project goal: Incorporate Vision Zero Action Plan objectives



POLICY AREA TESTS

		Modes Ac	ldresse	Analysis Scale		
Metric	Auto	Transit	Bike	Walk	Policy Area	Corridor
1. Accessibility						
Accessibility	~	✓	\checkmark	~	✓	

2. Mobility & Environment

100

DESIGN

Person Throughput	~	~			~
Travel Times	~	~		~	✓
VMT per Capita	~			~	
Non-Auto Driver Mode Share	v	~	v	~	



POLICY AREA TESTS

- Beta Testing (Ongoing)
 - All Policy Areas, when possible
 - Diversity of Policy Area types and East/West County, when limited by available data or project resources
 - Veirs Mill Road corridor
 + selected Policy Area pairs
- Threshold Setting (Upcoming)
 - Informed by calculated values

FEHR & PEERS DC

TECH COMPONENT A: VISION ZERO INTEGRATION

Task 1: Stakeholder Outreach

Task 2: Literature Review

Task 3: Beta-testing of Alternative Methods in Montgomery County

Task 4: Development of Recommendations



TECH COMPONENT A: VISION ZERO INTEGRATION

Task 3: Beta-testing of Alternative Methods in Montgomery County

• Compile data required to test two alternative methods





TECH COMPONENT A: VISION ZERO INTEGRATION

Add to the definition of Adequate Public Facilities

Ensure Vision Zero resources accurately reflect conditions on the development frontage

Alternative 1

Vision Zero Impact Statement

Alternative 2

FEHR & PEERS DC

Replace capacity-based adequacy measurements

BETA-TEST LOCATION

Creekside at Cabin Branch

DESIGN



Fehr / Peers DC



CREEKSIDE AT CABIN BRANCH 2017 LATR Guidelines

Clarksburg Policy Area – Yellow

328 Residential Dwelling Units

- 122 single family detached units
- 206 townhomes





2017 LATR GUIDELINES

Data requirements

- Planned development
 - Land use trip generation and trip assignment
 - Site access
- Transportation network
 - $\circ~$ Existing road network
 - Planned and programmed improvements
 - Non-auto transportation facilities
- Traffic volumes
 - o Existing traffic counts
 - Pipeline developments trip generation and trip assignment
 - o Total future traffic forecasts

PLANNED DEVELOPMENT

Land Use – Trip Generation

DESIGN

 ITE Trip Generation Manual + LATR adjustment factors and mode splits

Land Use	Policy Area Adjustment	Auto Driver	Auto Pass.	Transit	Non- Motorized	Peds	Total Person	
		AM Peak Hour						
Town Homes	100%	95	40	4	9	13	147	
Single-Family Detached Housing	100%	91	38	4	8	12	141	
Total Person Trips		186	78	8	17	25	288	
		PM Peak Hour						
Town Homes	100%	112	47	4	10	14	174	
Single-Family Detached Housing	100%	123	52	5	11	16	191	
Total Person Trips		235	99	9	21	30	365	



PLANNED DEVELOPMENT

Site Access



Fehr / Peers DC



TRANSPORTATION NETWORK

Existing Road Network Planned and Programmed Improvements



Fehr / Peers DC



TRANSPORTATION NETWORK

Non-auto Transportation Facilities

Pedestrian Facilities

A 5' wide sidewalk will be provided along the northwest side of Clarksburg Road between West Old Baltimore Road to Goldeneye Avenue. An 8' multi-purpose path will be provided along the southeast side of this roadway. Minimum 5' wide sidewalks will be provided along site access roadways and on-site roadways as required.

Bicycle Facilities

A 5' to 6' wide bike lane will be provided along each side of Clarksburg Road from West Old Baltimore Road to Goldeneye Avenue. Bicycle traffic mixes with automobile traffic through roundabouts along this roadway. An 8' wide multipurpose path will be provided along the southeast side of Clarksburg Road through the Cabin Branch Community. Bicycle traffic will share the roadway with on-site vehicular traffic.

Transit Facilities

Ride On route 73 provides weekday peak period service between Cabin Branch, Gateway Center and the Shady Grove Metrorail station.

Fehr & Peers DC

Existing Traffic Counts







Pipeline Developments

- Clarksburg Town Center
- Cabin Branch
- Linthicum West







Pipeline Development Traffic Assignments





1.00

DESIGN



Site Traffic Assignment

100







M-NCPPC SSP Update

Fehr / Peers DC

1.00

.Е

DESIGN

2017 LATR GUIDELINES

- Operational Analysis
 - Mitigation to meet delay thresholds
- Pedestrian, Bicycle, and Transit Impact Statement
- Conclusions





ALTERNATIVE 1

Vision Zero Impact Statement

- To ensure development is executed in a way that better aligns with Vision Zero principles, all LATR studies must include a Vision Zero Impact Statement that describes:
 - Any segment of the high injury network located on the development frontage.
 - Crash analysis for the development frontage.
 - An evaluation of the required sight distance and sight triangles for all access points.
 - Identification of conflict points for drivers, bicyclists, and pedestrians at all intersections and crosswalks and a qualitative assessment of the safety of the conflict.
 - A speed study including posted, operating, design, and inferred design speeds.
 - Any capital or operational modifications required to maximize safe access to the site and surrounding area, particularly from the Vision Zero Toolkit.
- Mitigation recommendations from the capacity-based adequacy determination must align with the Vision Zero Impact Statement and Pedestrian and Bicycle Impact Statement.
- Ensure Vision Zero resources accurately reflect conditions on the development frontage.

Fehr / Peers DC

DATA REQUIREMENTS

- All data required in 2017 LATR Guidelines
- High injury network
- Crash data for the development frontage
- Available and required sight distance for all access points
- Conflict points
- Speeds





HIGH INJURY NETWORK

Any segment of the high injury network located on the development frontage.

• Vision Zero Action Plan



Fehr / Peers DC

OLE M-NCPPC SSP Update

CRASH DATA

dataMontgomery: 2015-present

https://data.montgomerycountymd.gov/d/bhju-22kf/visualization



Fehr / Peers DC



SIGHT DISTANCE

- AASHTO GreenBook to calculate required sight distance
- Available sight distance measured during field work or verified by site engineer during design

Main Site Driveway, 40 mph posted speed limit on Clarksburg Road

- Case B1 Left turns from the minor road
 - 445' sight triangles in both directions
- Case B2 Right turns from the minor road
 - 385' sight triangle to the left
- Case F Left turn from the major road
 - 325' sight triangle along major road



CONFLICT POINTS

- Lane configuration \bullet
- Traffic control •





M-NCPPC SSP Update

Ε

ľ DESIGN

SPEEDS

- Posted speed limit
- Operating speed: Additional data collection required
- Design speed: County standard
- Inferred design speed (when available): Based on roadway design

Clarksburg Road

- Posted speed limit: 40mph
- Operating speed
- Design speed: 30-40mph for arterials
- Inferred design speed

VISION ZERO TOOLKIT

Based on the Vision Zero Impact Statement, identify any capital or operational modifications required to maximize safe access to the site and surrounding area, particularly from the Vision Zero Toolkit (currently under development).



MITIGATION PRIORITIES

- Crash mitigation strategies to achieve Vision Zero, identified in the Vision Zero Toolkit.
- Transportation demand management (TDM) approaches to reduce vehicular demand.
- Pedestrian or bicycle improvements.
- Transit facility or service improvements.
- Intersection operational improvements.
- Roadway capacity improvements.

No improvements should be installed that have a crash modification factor (CMF) greater than 1.0, per the CMF Clearinghouse.

ALTERNATIVE 2

Replace capacity-based adequacy measurements

- Option for implementing today and option for using tools that are still in development
- All tests are required if the development produces > 50 peak-hour weekday person trips
- Motor Vehicle System
 - Reduce the estimated number of crashes based on predictive safety performance functions or number of conflict points
- Pedestrian System
 - ADA compliance
 - Acceptable pedestrian level of comfort or no gaps in pedestrian access routes within 500 feet of the site
- Bicycle System
 - Low levels of traffic stress within 750 feet of the site
- Transit System
 - Somewhat or very comfortable pedestrian routes and LTS-2 bicycle routes to transit stops within 1,000 feet of the site

FEHR PEERS DC TOOLE

MOTOR VEHICLE SYSTEM

Reduce the estimated number of crashes based on predictive safety performance functions or reduce the number of conflict points

- Future traffic forecasts using 2017 LATR Guidelines process
- Number of conflict points
 - Conflict points identified for drivers, bicyclists, and pedestrians
 - Sum of the volume (vehicle, bicycle, pedestrian) of each movement for each conflict point that occurs under free conditions (when yielding is required)
- Safety performance function methodology: under development



PEDESTRIAN SYSTEM

- ADA compliance
- Acceptable pedestrian level of comfort or no gaps in pedestrian access routes within 500 feet of the site
- Inventory of existing and proposed pedestrian facilities
- Pedestrian level of comfort
 - o Pathway width
 - o Buffer from traffic
 - o Lanes to cross
 - Traffic speed
 - o Crosswalk markings
 - o Median islands

https://mcatlas.org/pedplan/

FEHR & PEERS DC

BICYCLE SYSTEM

Low levels of traffic stress within 750 feet of the site

https://mcatlas.org/bikestress/



Fehr / Peers DC



TRANSIT SYSTEM

Somewhat or very comfortable pedestrian routes and LTS-2 bicycle routes to transit stops within 1,000 feet of the site. If no stops exist within 1,000 feet of the site, include a discussion of necessary steps to make transit accessible to the site.

• Ride On Route 73: No transit stops within 1,000 feet of the site but route is adjacent to site





NEXT STEPS

Continue to compile data and create TIS Reports for Alternative Methods

Fehr / Peers DC



DISCUSSION

Fehr / Peers DC



M-NCPPC SSP Update

38