

# **2020 SUBDIVISION STAGING POLICY (SSP) UPDATE: TRANSPORTATION INITIATIVES**

## **PLANNING BOARD BRIEFING**

February 27, 2020

FEHR  PEERS | DC

**TOOLE**  
DESIGN

# WHAT THIS BRIEFING WILL COVER ...

- SSP Update Transportation Element Initiatives
- Preliminary Draft Recommendations
- Q & A Discussion with the Planning Board

# SCOPE OVERVIEW

- LATR Test – local traffic conditions (subdivision review)
  - **Project goal:** Incorporate Vision Zero Action Plan objectives
- Policy Area Review Alternatives – 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)

# 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

# VISION ZERO INTEGRATION INTO LATR PROCESS

## Principles of LATR

- Public facilities must be adequate to serve proposed development.

# SYSTEM ADEQUACY – CURRENT DEFINITIONS

Public facilities must be **adequate** to serve proposed development.

- Motor Vehicle System
  - Congestion standards by policy area
    - Delay, critical lane volume, volume-to-capacity ratio
- Pedestrian System
  - ADA compliance
  - LOS D for crosswalk pedestrian delay
- Bicycle System
  - Low levels of traffic stress
- Transit System
  - Peak load LOS D (1.25 transit riders per seat) during the peak period and peak direction

# VISION ZERO PRINCIPLES

Public facilities must be **adequate** to serve proposed development.

- **Vision Zero Action Plan:** *“Going forward, Montgomery County is committed to a safe systems approach to build infrastructure that provides safe passage for all road users.”*

## Vision Zero Principles

- *Transportation–related deaths and severe injuries are preventable and unacceptable.*
- *Human life takes priority over mobility and other objectives of the road system. The road system should be safe for all users, for all modes of transportation, in all communities, and for people of all ages and abilities.*
- *Policies at all levels of government need to align, making safety the highest priority for roadways.*

# SYSTEM ADEQUACY – VISION ZERO DEFINITION

## Subdivision Staging Policy Recommendations

- Define system adequacy in relation to Vision Zero before system adequacy is defined in relation to capacity.
- Acknowledge that as long as there are severe and fatal crashes on roads in the county, the current transportation system is not adequate but we can bring the system closer to adequacy.
- Development projects have the ability to contribute to the adequacy of the transportation system.
  - Specifics will vary between two alternative approaches



# VISION ZERO INTEGRATION DRAFT RECOMMENDATIONS

- Add safety to the definition of Adequate Public Facilities
- Ensure Vision Zero resources accurately reflect conditions on the development frontage
- Incorporate Vision Zero into Mitigation Priorities
  - Prioritize: Crash mitigation strategies to achieve Vision Zero, identified in the Vision Zero Toolkit
- Include Vision Zero staff on Development Review Committee
- Two Alternatives to document Vision Zero Impacts

# 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 for all access points.
  - A qualitative assessment of the safety of conflict points.
  - A speed study including posted, operating, design, and target speeds.
  - Any capital or operational modifications required to maximize safe access to the site and surrounding area, particularly from the Vision Zero Toolkit.

# ALTERNATIVE 2

## Revise Multi-Modal LATR Tests

- Motor Vehicle System (50 person trips)
  - Vision Zero Test
    - Reduce the estimated number of crashes based on predictive safety performance functions or number of conflict points
  - Existing capacity test
- Pedestrian System
  - Existing – ADA compliance (50 pedestrian trips)
  - Acceptable pedestrian level of comfort within 500 feet of the site boundary, or to transit stops within 1,000 feet (5 pedestrian trips)
  - Lighting review (5 pedestrian trips)
- Bicycle System
  - Existing test – low levels of traffic stress within 750 feet of the site (5 bicycle trips)
- Transit System
  - Existing capacity test – peak load level of service (5 transit trips)

# CHANGES FROM EXISTING LATR

**Vision Zero representative on Development Review Committee**

**Lower modal test thresholds**

**Consultant required to document:**

- Expected number of crashes or Crash Modification Factors
- Pedestrian Level of Comfort
- Existing street lighting

**Developer may be required to build:**

- Treatments from the Vision Zero Toolkit
- Up to 1,000 feet of pedestrian network improvements
  - 2,000 feet if accessing transit stop
- Up to 1,500 feet of bicycle network improvements

# TECH COMPONENT B: POLICY AREA REVIEW ALTERNATIVES

Task 1: Develop Alternative Policy Area Review Alternatives

Task 2: Beta-test proposed policy area review alternatives in Montgomery County

Task 3: Develop Recommendations

# CHANGES TO POLICY AREA REVIEW

No current policy area-level transportation adequacy review process – eliminated in adopted 2016-2020 SSP

## Proposed approach:

- Applies only to master/sector plan review
- Removes Level of Service as Policy Area-level metric
- Introduces holistic, multimodal performance metrics to better:
  - Reflect increased travel mode alternatives and
  - Consider effects of Policy Area-level changes across Montgomery County

# POLICY AREA REVIEW

Metric	Modes Addressed				Analysis Scale	
	Auto	Transit	Bike	Walk	Policy Area	Corridor
<b>1. Accessibility</b>						
Accessibility	✓	✓	✓	(✓)	✓	
<b>2. Mobility &amp; Environment</b>						
Person Throughput	✓	✓				✓
Travel Times	✓	✓			✓	
VMT per Capita	✓				✓	
Non-Auto Driver Mode Share	✓	✓		✓	✓	

# AUTO & TRANSIT ACCESSIBILITY

**What?** Number of jobs accessible within 45 minutes greater than existing value

Auto: 1,159,950 jobs on average

Transit: 134,160 jobs on average

**How?** Travel/4 Model

**Where?** TAZ level; population-weighted average to County

**Why?** Indicates accessibility to destinations

Can demonstrate accessibility tradeoff of new destination options, increased density of development, increased congestion, and transportation network changes



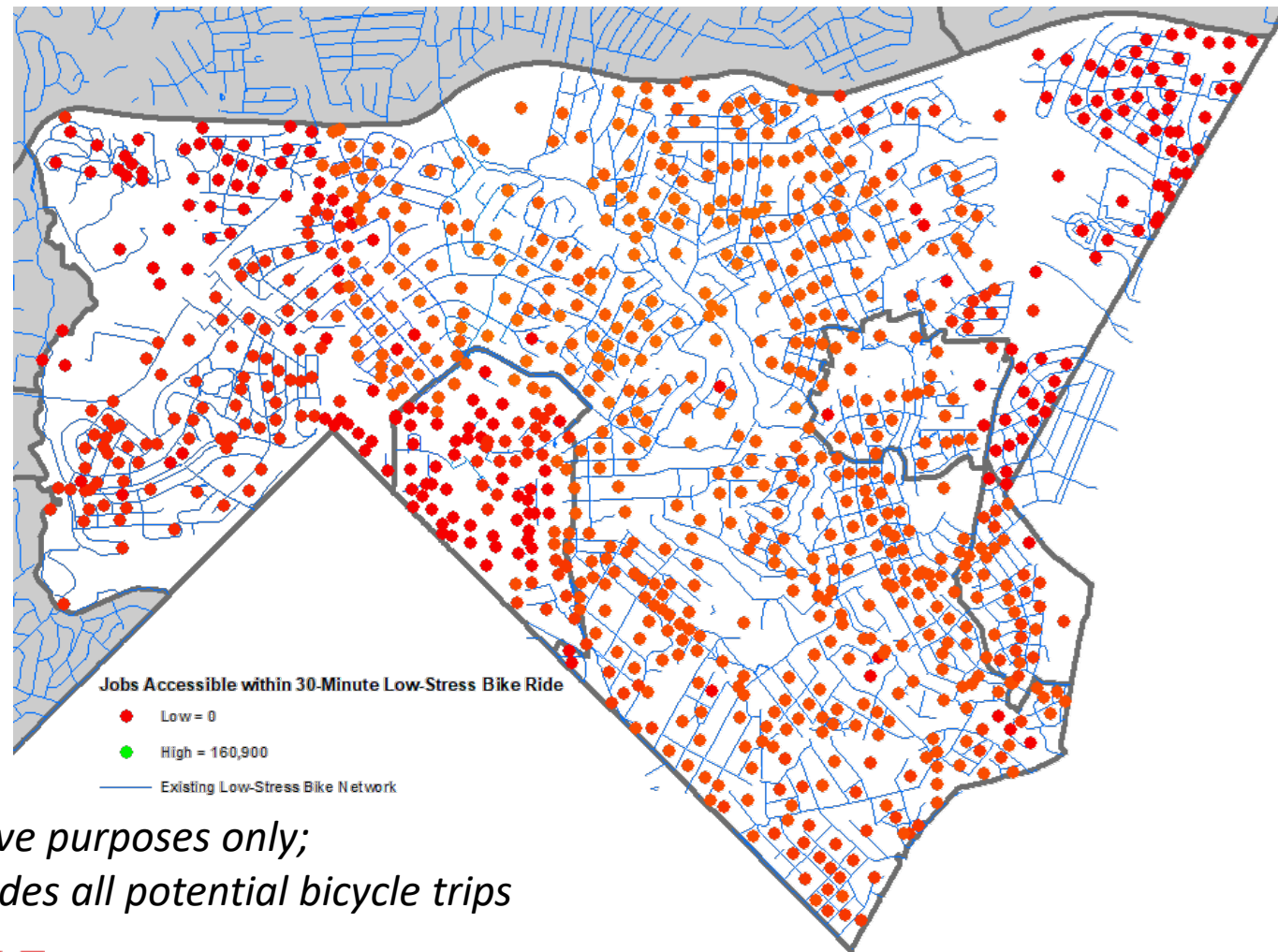
# LOW-STRESS BIKE ACCESSIBILITY

- What?** Percentage of potential bicycle trips able to be made on a low-stress bicycling network. (*Threshold TBD*)  
 (“appropriate for most adults” or “appropriate for most children”)  
 Consistent with approach for Objective 2.1 of Bicycle Master Plan – “Countywide Connectivity”
- How?** ArcMap GIS script network analysis  
 Bicycle Master Plan Bike Stress Map (County Only)  
 Bicycle trip length decay function
- Where?** Census Block Group level  
 Countywide % of potential bicycle trips
- Why?** Indicates bike accessibility to destinations in Montgomery County  
 Proxy for safe segment and crossing connectivity

# LOW-STRESS BIKE ACCESSIBILITY EXISTING

Silver Spring /  
Takoma Park  
Silver Spring CBD  
Long Branch  
Sector Plan  
Takoma/Langley

Average Job  
Access: \*  
12,800



*\*Job Access for illustrative purposes only;  
Proposed method includes all potential bicycle trips*

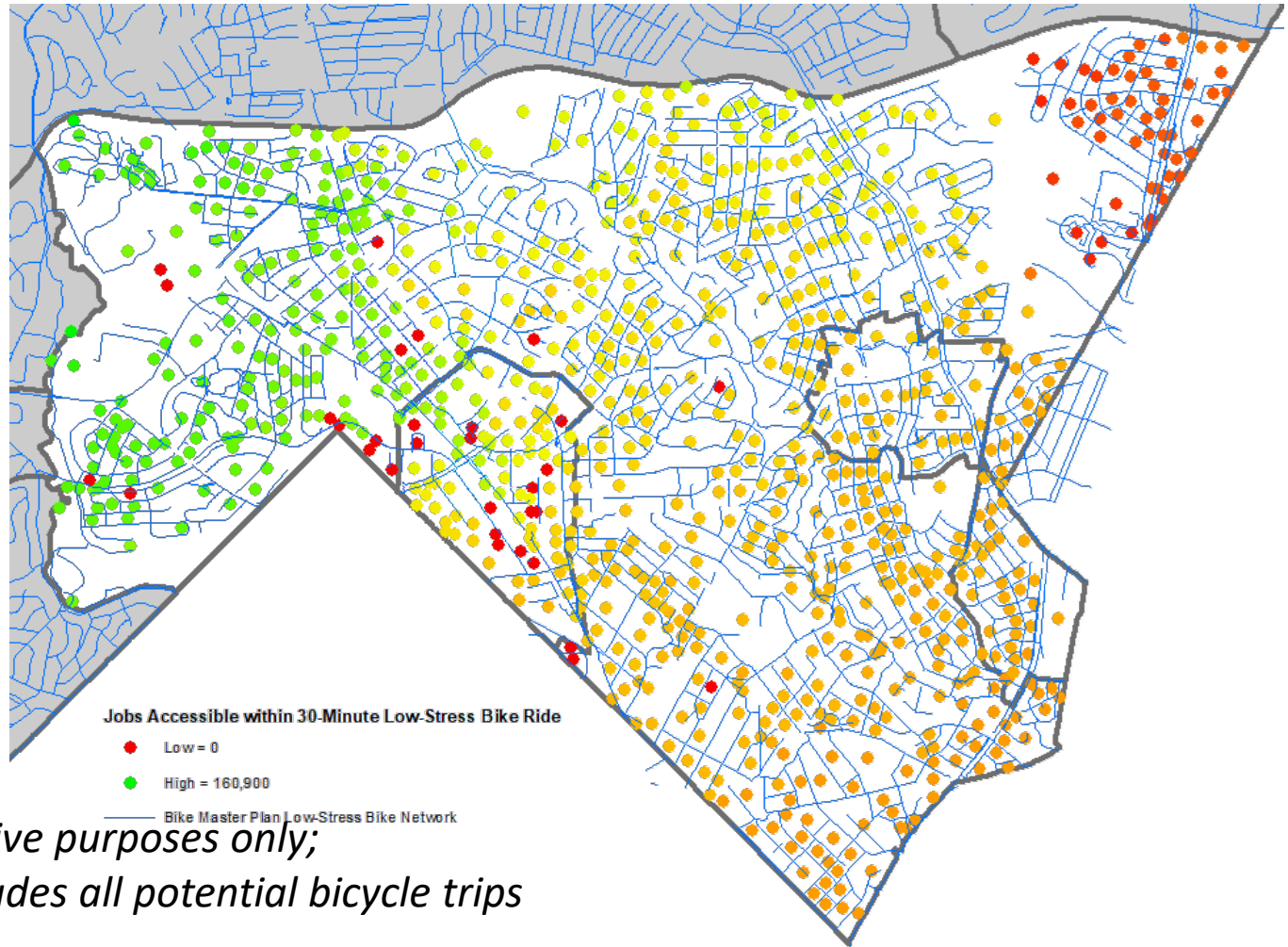
# LOW-STRESS BIKE ACCESSIBILITY

## BIKE MASTER PLAN BUILD-OUT

Silver Spring /  
Takoma Park  
Silver Spring CBD  
Long Branch  
Sector Plan  
Takoma/Langley

Average Job  
Access:\*

69,500 (5x)



*\*Job Access for illustrative purposes only;  
Proposed method includes all potential bicycle trips*

# COMFORTABLE WALK ACCESSIBILITY

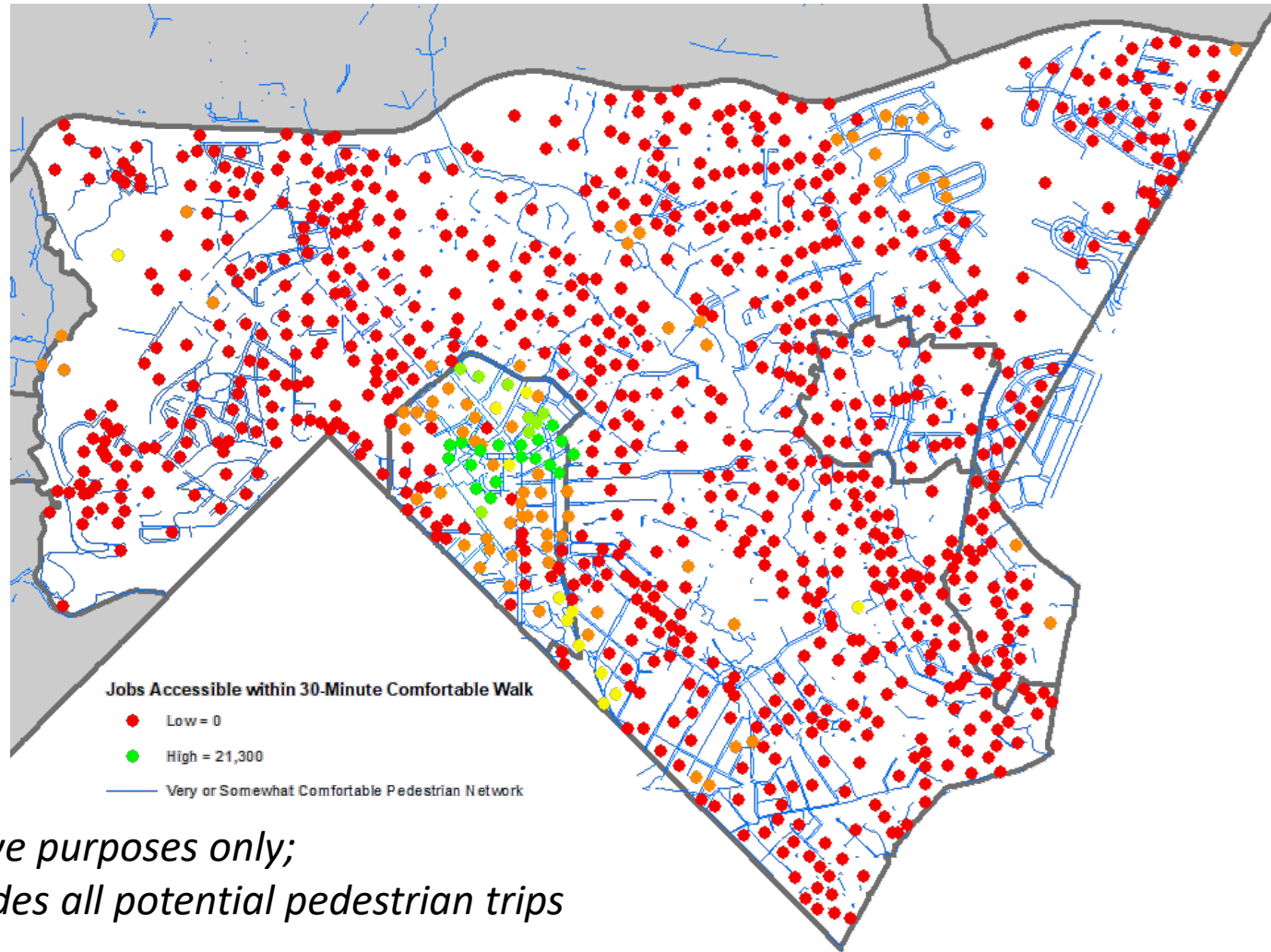
- What?** Percentage of potential pedestrian trips able to be made on a comfortable pedestrian network. (*Threshold TBD*)  
 (“very comfortable” or “somewhat comfortable”)
- How?** Similar to Bicycle Master Plan approach (under development)  
 Pedestrian Level of Comfort Map (under development)
- Where?** Block Combination level (limited coverage)  
 Countywide % of potential pedestrian trips
- Why?** Indicates walk accessibility to destinations in County  
 Proxy for safe segment and crossing connectivity

# COMFORTABLE WALK ACCESSIBILITY EXISTING

Silver Spring /  
Takoma Park  
Silver Spring CBD  
Long Branch  
Sector Plan  
Takoma/Langley

Average Job  
Access:\*

480



*\*Job Access for illustrative purposes only;  
Proposed method includes all potential pedestrian trips*

# PERSON THROUGHPUT

- What?** Number of people passing through the corridor by auto and transit.
- How?** Travel/4 model results  
\*Consider updating with detailed ops/capacity analysis for key projects
- Where?** Corridor level (segments along corridor)
- Why?** Indicates passengers served  
\*With ops/capacity analysis, could also provide intersection delay info

**Not Recommended** for evaluation.

Outside dense, urban environments, person throughput on buses likely lower than in SOVs; however, there may be other justifications for improved transit infrastructure, such as providing other viable mobility options for travelers, reducing traveler out-of-pocket cost, etc.



# AUTO/TRANSIT TRAVEL TIMES

**What?** Average travel time per trip (all trips) less than future baseline  
19 minutes for Auto (vs. 16 minutes existing)  
52 minutes for Transit (vs. 50 minutes existing)

**How?** Travel/4 Model + custom script

**Where?** TAZ level; County average for all trips

**Why?** Indicates total amount of time spent traveling per trip  
Travel time more intuitive measure of burden than intersection delay

Changes in a Policy Area affect travel times not only for that policy area but for much of the County.

Congestion may increase, but effects on travel times for individual trips may be offset by changes to trip distribution patterns and shorter trip distances afforded by new destination options in closer proximity.

# VMT PER CAPITA

**What?** Daily vehicle miles traveled per “service population”  
“service population = population + total employment  
less than future baseline

12.4 VMT per capita (vs. 13.0 existing)

**How?** Travel/4 Model + custom script  
50% of origin VMT + 50% of destination VMT

**Where?** Service Population-weighted County average

**Why?** Changes in a Policy Area affect vehicle miles traveled not only for that policy area but for other parts of the County as well.

VMT per capita will reflect changes in trip distribution patterns, trip lengths, shifts in mode of travel due to changing destination options.



# NON-AUTO DRIVER MODE SHARE (NADMS)

**What?** % of non-auto driver trips greater than future baseline  
46% NADMS for all trip purposes

**How?** Travel/4 Model + custom script  
Includes origin and destination trip ends

**Where?** TAZ level; summarized for all County trips

**Why?** Indicates use of non-auto modal options  
Changes in a policy area affect mode choice decisions not only for that policy area but for other parts of the County as well.

# QUESTIONS?/DISCUSSION