



Subdivision Staging Policy – Briefing on Transportation Modeling Tools and Metrics

EG

Eric Graye, Supervisor, Functional Planning & Policy Division, eric.graye@montgomeryplanning.org, 301-495-4632

PD

Pamela Dunn, Chief, Functional Planning & Policy Division, pamela.dunn@montgomeryplanning.org, 301.605-5649

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Description

The transportation tests applied in the context of the Subdivision Staging Policy (SSP) are supported by transportation analysis tools and transportation system performance metrics which are used in combination to determine transportation adequacy. The current paradigm for the application of these tools and metrics is briefly summarized below.

- **Transportation Policy Area Review (TPAR) Roadway Adequacy** – The Department’s regional travel demand model (Travel/4) is the tool applied to derive the roadway adequacy results¹ used in support of the area-wide transportation test.
- **Transportation Policy Area Review Transit Adequacy** - TPAR transit adequacy is determined by an assessment of existing local transit service utilizing three (3) system performance metrics: (1) headway, (2) coverage and (3) span of service.
- **Local Area Transportation Review (LATR)** - Traffic impact studies used in support of LATR, which focus on the capacity analysis of local intersection conditions, apply traditional Critical Lane Volume (CLV) and (when appropriate) Highway Capacity Manual (HCM) techniques and supporting performance metrics.

The 2016 SSP update provides an opportunity to review and reassess this current set of transportation analysis tools and transportation system performance metrics. This process includes:

- (1) An assessment of the utility and relevance of the existing transportation system performance metrics with respect to supporting County land use policy and master plan vision.

¹ TPAR roadway adequacy is measured as the ratio of congested travel speed relative to free-flow travel speed in the peak direction of travel.

- (2) Based on the outcome of the assessment described above, the identification of new transportation analysis tools and transportation system performance metrics which are better suited to support County planning needs.

During the past several months, staff have worked in close collaboration with our Fehr and Peers consultant partner in support of this effort. Key products derived from this work include the following technical memoranda and related documentation which are briefly described below.

- **Transportation Metrics Assessment Memo**

This memo (Attachment A) provides a preliminary assessment of the applicability of the **existing** transportation metrics used in Montgomery County. This memo includes an inventory of County goals, a distillation of those goals into a concise summary framework, a summary of existing transportation metrics used within the County, and an assessment of the existing metrics relative to the County's goals.

- **Transportation Metrics Recommendations Memo**

This memo (Attachment B) builds on the Transportation Metrics Assessment memo by: (1) documenting ideas for transportation performance metrics that address gaps in the County's ability to measure desired policy outcomes and (2) proposing a suite of selected transportation metrics for further evaluation. In a following memo, the County's existing and potential tools will be evaluated for their ability to calculate the proposed suite of metrics.

- **Transportation Models Review Narrative**

This narrative (Attachment C) provides a summary description of the Department's current regional travel demand modeling tool (Travel/4) as well a description of a selected set of alternative transportation modeling tools to be considered for inclusion in the modeling framework used by the Department. A key outcome of the work performed by Fehr and Peers will be an evaluation of the utility and relevance of these tools with respect to the direction County policies and objectives.

- **Transportation Models Review Summary**

This is a tabular summary of the transportation models review narrative information described above (Attachment D).

At today's briefing Fehr and Peers staff will:

- (1) Provide a status update regarding their work to establish an appropriate framework for the identification of new transportation modeling tools and analysis methods.

(2) Demonstrate the application of a recommended set of transportation system performance metrics using the Bethesda Downtown area as a “case study”. The metrics applied in this context are briefly described below.

Recommended Performance Metrics

Metric	Detail	Functional Areas Addressed	Applicable Scales
Accessibility	of jobs and other person trips by all modes within a range of travel times	Land Use Network Function	Countywide Planning Area Site
Traveler Experience	separate measures for each mode, applied selectively according to modal priority networks	Function	Countywide* Planning Area Corridor Intersection
Intersection Performance	measured in terms of person delay for all modes	Function	Corridor Intersection
Person Trips	by mode and in relation to measures of travel cost	Usage	Countywide Planning Area Corridor Site
Mode Share	% of person trips made using each mode	Usage	Countywide Planning Area Corridor Site
Collisions	by mode, normalized by person trips	Safety	Countywide Planning Area Corridor Intersection

*Varies by mode.

(3) Describe key “next steps” regarding their work for the Department, including a discussion of how this work will be used to guide the development of recommendations for the selection of new transportation modeling tool(s) and analysis approaches.

In advance of today’s briefing, the Board is encouraged to review the referenced technical memoranda and related documentation described above. These items are provided as attachments to this report.

Attachments:

- Attachment A: Transportation Performance Metrics Assessment Memo
- Attachment B: Transportation Performance Metrics Recommendations Memo
- Attachment C: Transportation Models Review Narrative
- Attachment D: Transportation Models Review Tabular Summary

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