

Montgomery Rapid Transit System US 29 North Corridor Advisory Committee Meeting #4 Technical Meeting

Frequently Asked Questions

Travel Demand Forecasting and Ridership:

- What is MWCOG?

MWCOG stands for the Metropolitan Washington Council of Governments and is an independent, nonprofit association that is comprised of elected officials from local governments, the Maryland and Virginia state legislature, and U.S. Congress. For the purpose and this study, MWCOG provided a regional travel demand model for the study area, including bus ridership, which is necessary for this BRT study. This model is called macroscopic and looks at big picture trip information, which can later be post-processed to gain details on specific ridership information.

- Where does MWCOG receive its ridership information?

The MWCOG model uses information from the Census data, the Household Travel Survey, transit on-board surveys, commercial vehicle surveys, and traffic and ridership information from all transit agencies affecting Maryland roadways. Land use information is relegated from a cooperative forecast procedure inclusive of counties and other government agencies and transferred to the MWCOG for use in forecasting vehicular and transit trips throughout Maryland.

- Why was MWCOG travel demand model used (and not the County's model)?

For SHA's Purpose & Need, the MWCOG model is currently a standard industry practice source for travel demand data. Additionally, due to MWCOG's extensive network, incorporating not only Montgomery County but a large portion of the State of Maryland and parts of Virginia, the trip patterns were likely to be more informative for future forecasts. Furthermore, the study area for this BRT study was refined, validated, and updated to Montgomery County land use to ensure the most accurate information available was provided for the Purpose & Need.

- Why are you not showing expected BRT ridership?

The focus up to this point has been to establish a reliable baseline for future use in Stage 2, at which point ridership will be further scrutinized to ensure accuracy of any potential ridership information along US 29.

- What assumptions were made regarding work destinations, commuting, etc.?

The MWCOG travel demand model uses existing and planned land use to determine the origins and destinations of all trips, including commute trips. The locations of future employment are in the 2040 model and the origin-destination patterns of the commute trips will change accordingly.

- What calibration efforts were undertaken for the regional forecasts?

The US 29 study area was refined to take into account additional roadway details, including side streets such as Lockwood Drive, which were not initially in the model. Additionally, vehicular throughput was validated to ensure the network performed to the best of its capabilities per the Purpose & Need. Bus ridership information from WMATA and RideOn were also considered for validation.

- Why was an on-board bus survey not performed to determine exact ridership origin-destinations, which could then be used much more accurately towards a future model?

This project was established from a Purpose & Need standpoint, which means determining if the development of a US 29 BRT is feasible on a big picture scale. Due to this, budget and schedule were not available to perform the extensive (minimum one year) and extremely costly on-board origin-destination survey.

- Why was the MWCOG Round 8.4 not used?

Round 8.4 was initiated December 2014, after the US 29 project was well under way. Additionally, Round 8.4 land use changes affect counties outside of Montgomery, with minor employment and population increases (less than 1%), and is not officially approved by the MWCOG board.

Traffic Operations:

- What are the peak hours used in the traffic operations analysis?

The peak hours analyzed for this study were 8:00 a.m. to 9:00 a.m. and 5:00 p.m. to 6:00 p.m.

- How were the peak hour traffic volumes established?

Existing peak hour traffic volumes used traffic counts from State Highway Administration's (SHA) Traffic Monitoring System (TMS) for locations with counts from 2012-2014, and included 21 new

count locations, performed in fall of 2014 (mostly late September) and some from before the summer (prior to schools letting out). Volumes were balanced throughout the entire corridor. Future volumes used the 2040 MWCOG model growth rates and applied them to the 2015 base volumes.

- Will the simulation model capture the delay that builds up prior to the 8:00 a.m. or 5:00 p.m. peak hour?

Yes, the simulation models took into consideration seeding time, which is a period of time used in simulation analysis to ensure that the network is “loaded” at the time data is being recorded. This means the data collection does not start as the first car enters the network, it starts once the network already has cars traveling the network and is at the level of congestion it is supposed to be (i.e. existing congestion).

- What developments were included in the forecasting process *and/or* did you include (*insert development name here*)?

The regional travel demand model was updated to the latest land use information available, provided to SHA by Montgomery County, including developments such as White Oak and Silver Spring developments. This means that even if a development is implemented later, the zoning of that land has been taken into consideration.

- Was the Fairland interchange taken into consideration?

Yes, including the closure of Musgrove at US 29. All projects currently **funded** in the Fiscally Constrained Long Range Plan (CLRP) have been taken into consideration and factored into the traffic forecasts.

- Were the potential Tech/Industrial/Stewart interchanges incorporated into these networks?

No, these interchanges were not incorporated into the study. While these proposed projects are included in the CLRP, they have not been funded for planning, design, or construction; a thorough analysis must be undertaken to establish the feasibility of interchanges at these locations. As such, for this US 29 BRT study, interchanges were not developed or analyzed at these locations. SHA did consider incorporating them in the future No Build and developed potential high level concepts, but these included closing off the accesses, which needs to be further investigated and agreed upon by all affected parties.

- Why are we looking only at AM/PM peak hours and not off peak and weekend?

It is SHA’s standard procedure to evaluate the AM/PM peaks for Purpose & Need, as this usually provides the worst case scenarios for the corridor. Because we are looking at this system as a corridor level and specifically for weekday commuters, it is unlikely Saturday peaks will be

analyzed. However, if further analyses are required, such as off-peak or weekend conditions, the decision will be made during Stage 2 of this BRT study.

- Why was crash data included in this presentation?

It is SHA's standard procedure to evaluate the potential safety impacts to any study. Additionally, the implementation of a BRT system may impact the median and/or bus stop locations and, at minimum, a qualitative review of the crash history in the corridor must be considered when designing the BRT.

- How was the segment LOS calculated?

The segment LOS was calculated using travel speed breakdowns per the Highway Capacity Manual 2010 methodology.

- What calibration efforts were undertaken for traffic operations?

The US 29 network was calibrated per SHA standard practice, which are more restrictive than Federal standards at this time. The calibration ensured travel speeds were within range of the collected travel speeds and vehicle throughput from the software was within range of the actual vehicle throughputs collected via counts. We additionally took bus travel time information into account.