ENVISION ROUTE 7

Future Riders, Time Savings, and Costs

TRAVEL DEMAND FORECASTING PROCESS

Travel demand forecasting is a tool used by transportation planners to estimate future use of facilities (transit and highways). The process applies data available from regional and national resources to estimate demand:

WHY — Trip Generation

Future land use estimates are maintained by Metropolitan Washington Council of Governments (MWCOG)—these estimates identify expected future houses and employment throughout the region. This data set represents an estimate of what the future will look like in the region.

WHERE — Trip Distribution

MWCOG develops an understanding of trip patterns in the region by conducting a household travel survey. This data is used as an input to define future trip patterns for all modes.

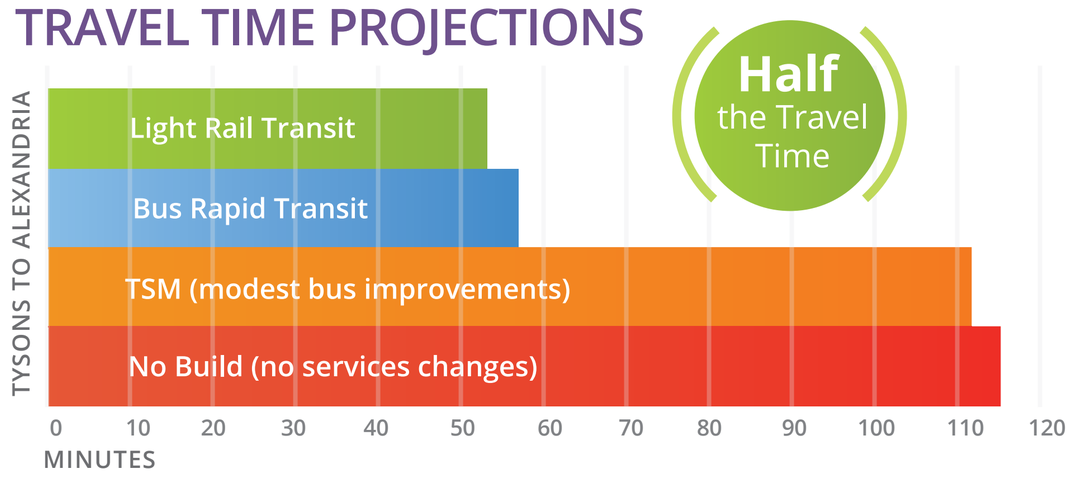
HOW — Mode Choice

MWCOG has surveyed people in the region, asking them how they make decisions about mode of travel. This information is used to estimate future mode choice (transit, drive, walk, bike)

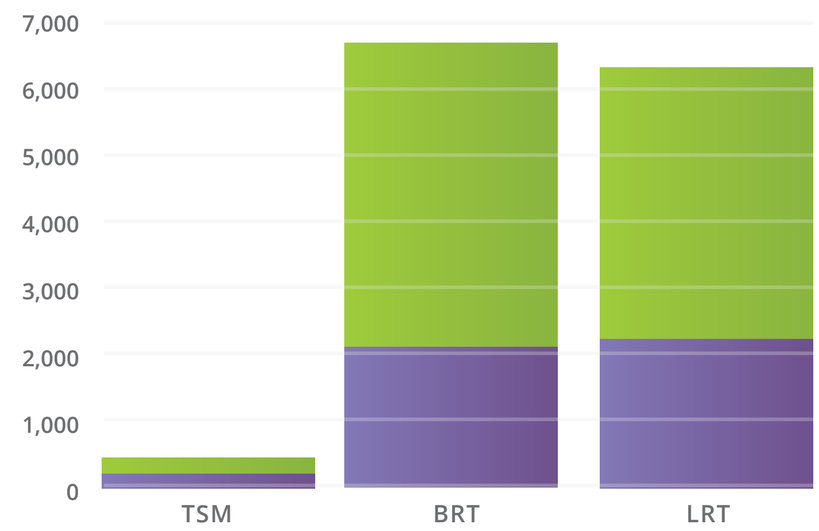
WHICH WAY — Assignment

Once trip patterns are defined, the assignment step estimates the path each traveler will take to get to his or her destination, taking into account travel time along various options.

TRAVEL TIME PROJECTIONS



2040 NEW DAILY TRANSIT TRIPS WITHIN THE CORRIDOR



CAPITAL COSTS

Capital costs are one-time, fixed costs associated with building the service line. Major capital costs associated with a new transit system include:

- **Physical construction of the alignment**: additional roadways, steel rails (LRT), and lane reconfiguration
- **Stations and stops**: structures, shelters, seats, and amenities
- **Right-of-way purchase**: buying land for the route, stations or stops
- **Site work**: demolition, road work, and utility relocation
- **Systems**: communications, signals, electrification (LRT), and fare collection
- **Vehicles**
- **Maintenance facilities**
- **Professional services**: engineers, architects, lawyers, and permitting fees

ALIGNMENT CAPITAL COST ESTIMATES

The capital costs of the seven various alignment or mode options have been estimated based on comparable systems nationally. The estimates below have been tailored to account for mode type, alignment length, and location.

	Route Miles	Stations	Capital Costs (millions)	Cost Per Mile (millions)
BRT - Tysons to Van Dorn with EFC connection (Alt. 1)	15.2	24	$305.74	$20.10
BRT – Tysons to Mark Center with EFC connection (Alt .2)	12.5	21	$266.28	$21.24
BRT – Tysons to Van Dorn w/o EFC connection (Alt. 3)	13.1	22	$267.36	$20.41
BRT – Tysons to Mark Center w/o EFC connection (Alt. 4)	10.4	19	$227.90	$21.86
BRT – Tysons to King Street Metro with EFC connection (Alt. 5)	14.6	19	$295.27	$20.23
LRT At-Grade – Tysons to Van Dorn with EFC connection (Alt. 6)	12.6	21	$946.08	$75.25
LRT (Alt. 6) At-grade with elevated rails	12.6	21	$997.44	$79.34

EFC – East Falls Church Metro Station

Downton bus stop with off-board fare collection, shelter, and real-time information

BRT stop requiring significant roadway redesign in a downtown

Modern, high capacity vehicle

SIMILAR PROJECTS THROUGHOUT THE REGION

Various BRT and LRT projects have been proposed or constructed throughout the region. Below are several capital cost estimates, which include construction and real estate costs.

	Route Miles	Capital Costs (millions)	Cost Per Mile (millions)
LRT – Purple Line – Maryland	16.2	$2,448	$151
LRT – Virginia Beach Transit Extension – Virginia	3.1	$279	$90
BRT – Corridor Cities Transitway – Maryland	9.0	$545	$61
BRT – GRTC Pulse – Richmond, Virginia	7.6	$54	$7
BRT – Route 1 Metroway – Alexandria, Virginia	0.8	$23	$21

WMATA's Metroway

MTA's Proposed Purple Line

NVTC
NORTHERN VIRGINIA TRANSPORTATION COMMISSION