

Route 1 Regional Growth Strategy Corridor Working Group Briefing Note #12



Transportation Performance Analysis

What We Did and Why It Is Important

The project team analyzed the quality of travel using data from the regional travel demand model for 2000 and the 2025 trend forecast and maximum build-out scenarios. (Build-out assumes all land is developed according to current zoning.) Our results are discussed below.

The projected growth in traffic would overwhelmingly exceed the transportation system, including improvements currently planned. Key travel performance indicators show that the trend scenario is heading toward traffic gridlock within the study area, while gridlock is virtually guaranteed under the build-out scenario. One key reason is the large amount of land zoned for commercial uses without a corresponding provision for housing for the necessary work force.

Almost every trip in the region will continue to be made on the roadway, with only 1% or fewer travelers using public transit. Although people do not necessarily prefer driving, the unavailability of transit limits their options. Land use densities in the region are unlikely to support transit under both the trend and build-out scenarios. Land use decisions drive mode choice decisions; changes in land use will be necessary to make transit more viable in this region.

The build-out scenario reveals a striking imbalance between employment opportunities and available work force within the region. Employment growth will be significantly steeper than population growth based on current zoning; municipalities will have to rely on even more workers from outside the study area

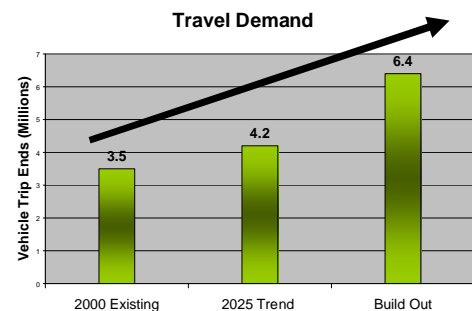
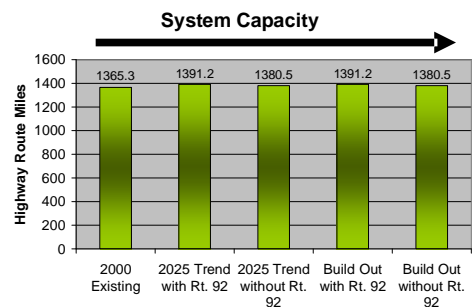
What You Need To Know

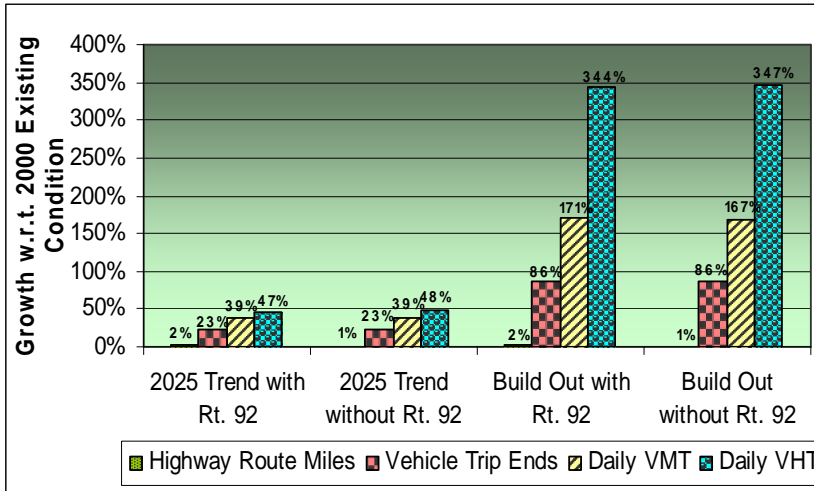
Transportation System Capacity

§ The capacity of the system will not change significantly under either the future trend or build-out scenario.

Travel Demand

§ Travel demand is projected to increase significantly under both scenarios. The number of vehicle trips is expected to increase by 23% under the trend scenario, and by 86% under the build-out scenario.





Daily Vehicle Miles Traveled (VMT)

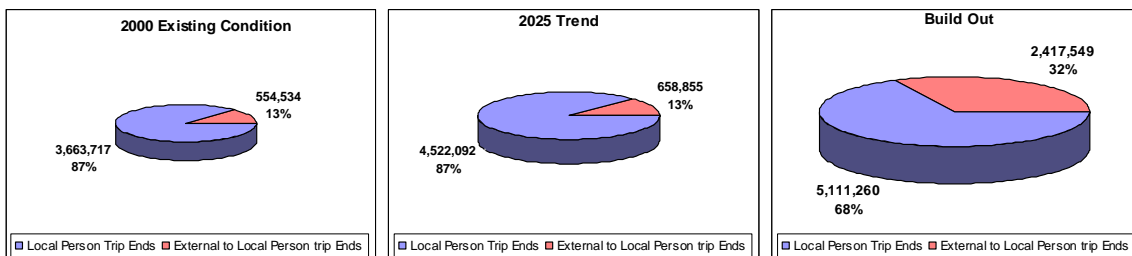
- § VMT is projected to increase twice as fast as the number of trips under the build-out scenario.
- § Trips will be longer because
 - More trips will come from outside the study area
 - Travelers will choose longer but easier routes to avoid congestion

Daily Vehicle Hours Traveled (VHT)

- § VHT is projected to increase four times as fast as the number of trips under the build-out scenario.
- § The average trip will take much more time because
 - Congestion will increase significantly
 - Travelers will choose longer but easier routes to avoid congestion

Increasing Number and Proportion of Trips Coming from Outside the Study Area

Because employment will grow much faster than the number of workers who live in the region, businesses will have to import many more employees from outside the study area.



Mode Choice



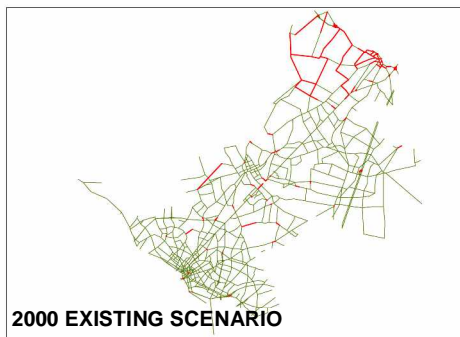
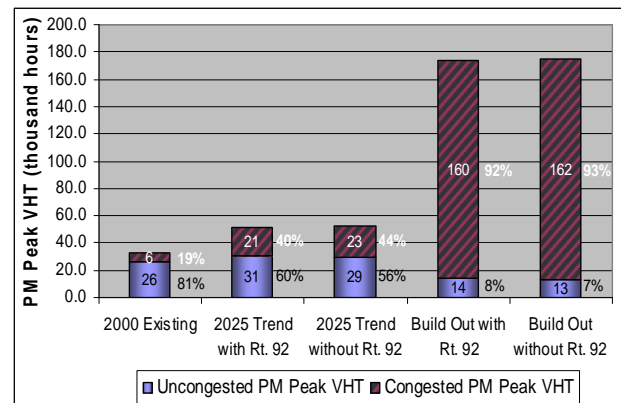
99% on the Road



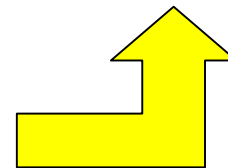
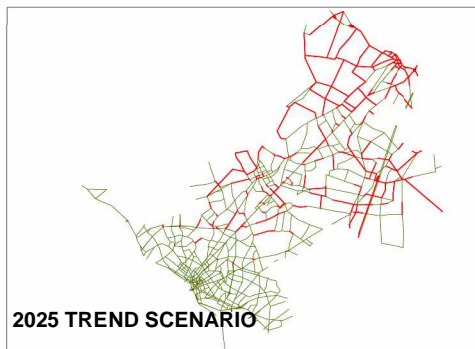
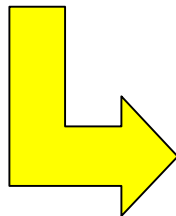
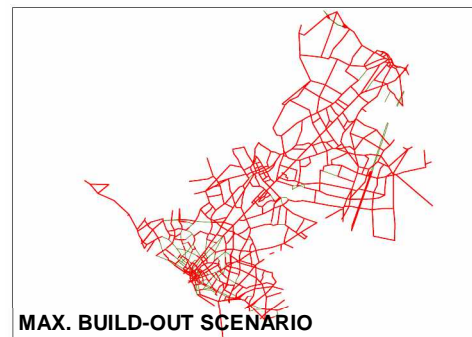
Only 1% Transit Trips

Peak Hour Congestion

- § Travel will be congested more than 90% of the time traveled during the evening peak hour under the build-out scenario.
- § By contrast, in 2000 only 19% of travel time was spent in congestion during the evening peak hour.



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Congested
Roadway
links with
V/C >= 1.0



How We Did It

Based on such inputs as demographic attributes, existing traffic counts and patterns, and transportation network details, the model provided travel performance indicators for 2000, the 2025 trend forecast scenario, and the maximum build-out scenario. The project team compared these key performance indicators to understand how they vary and their interdependencies.

Trend forecast is a way of estimating travel data for a certain future year based on recent traffic patterns and demographic changes. However, the trend forecast does not take into consideration the availability of developable land and economic forces, which in reality govern the rate of change in travel behavior. Thus, trend forecast is an unconstrained land use scenario.

On the other hand, the maximum build-out scenario considers the availability of developable land and current zoning to come up with calculated future demographic attributes. Thus, the build-out forecast is a constrained scenario based on land capacity. Although the build-out scenario considers the availability of developable land, it should be noted that it does not address the economic forces that play a major role in the development of any region. Thus, the build-out scenario is hypothetical; it is analyzed to determine the maximum traffic impacts if the study area were fully developed based on current zoning.