

## 2035 LRTP – Transportation Options Congestion Maps (V/C maps)

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### Use of Congestion Maps

The Performance Measures provide a general indicator of the overall transportation system. On the other hand, the Congestion Maps show the forecasted level of service on specific road segments and corridors based on the afternoon peak hour. The afternoon peak hour is used because that period traditionally experiences the greatest travel demand. These maps are sometimes called “V/C” maps (V over C maps) because the level of service, or existence of congestion, is derived by dividing the traffic volume by the traffic capacity of the road segment. For example, a volume of 9,000 vehicles on a road that is capable of carrying 10,000 vehicles will produce a V/C of 0.9. A V/C of 1.0 is equal to a Level of Service (LOS) of “E”, which can be described as:

Limit of acceptable delay, unstable flow, poor signal progression,  
traffic near roadway capacity, frequent cycle failures.

Although the term traffic congestion is subjective in that it means different levels of delay to different people, it can be said that any road segment approaching a V/C of 1.0, which is indicated on the maps with an **orange color**, experiences some delays. A V/C greater than 1.0, which is indicated on the maps by the **purple color**, means frequent delays for the motorist, and a V/C greater than 1.1, which is indicated by the **red color** on the maps, translates into unacceptable travel delays.

The Triangle Regional Model (the travel demand model for the Triangle Region) uses travel behavior data for the Triangle Region, future transportation system networks, and future population and employment data, to forecast the volume and capacity values needed to produce these maps. The forecasts are for the year 2035. Each Congestion Map represents one of the transportation options.

Review and comparison of the Congestion Maps for the various transportation options will show how well a particular option addresses travel demand on the key roadway segments and corridors in the MPO planning area.

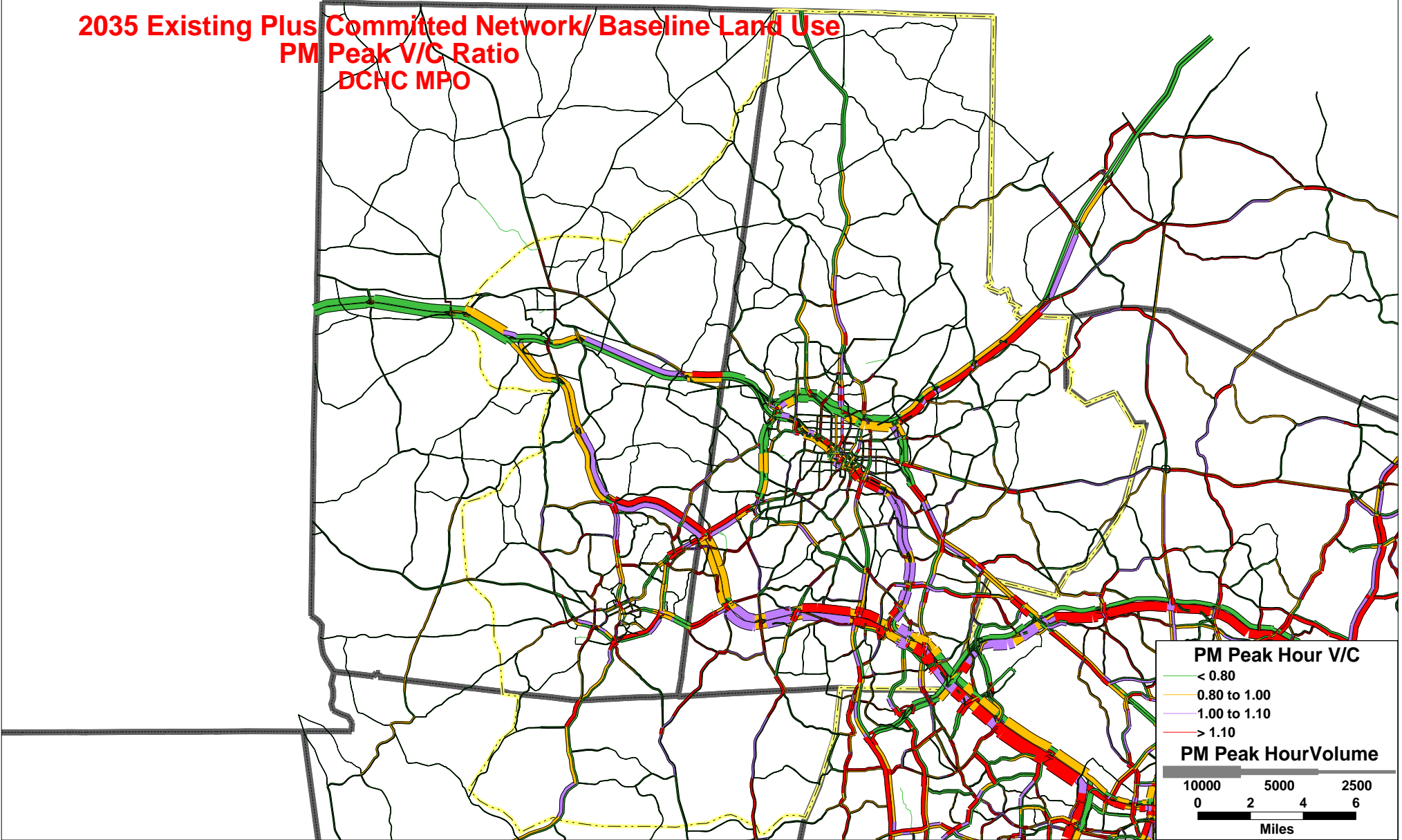
Of particular importance is the comparison of any one option with the **E+C map** (Existing plus Committed), which can be considered a benchmark. The E+C map uses a transportation network with the current roadways and transit services plus any others that have been committed to being implemented, and the Socioeconomic Data (i.e., population and employment) for the year 2035. This map shows the level of service to be experienced if no additional roadway improvements or transit services are implemented, and thus helps to answer the question, “When we make our next transportation investment decision, where do we need to focus our investment?” Furthermore, by comparing the E+C Congestion Map with the transportation options, you can see how well the transportation investments in that option address the congestion in the E+C.

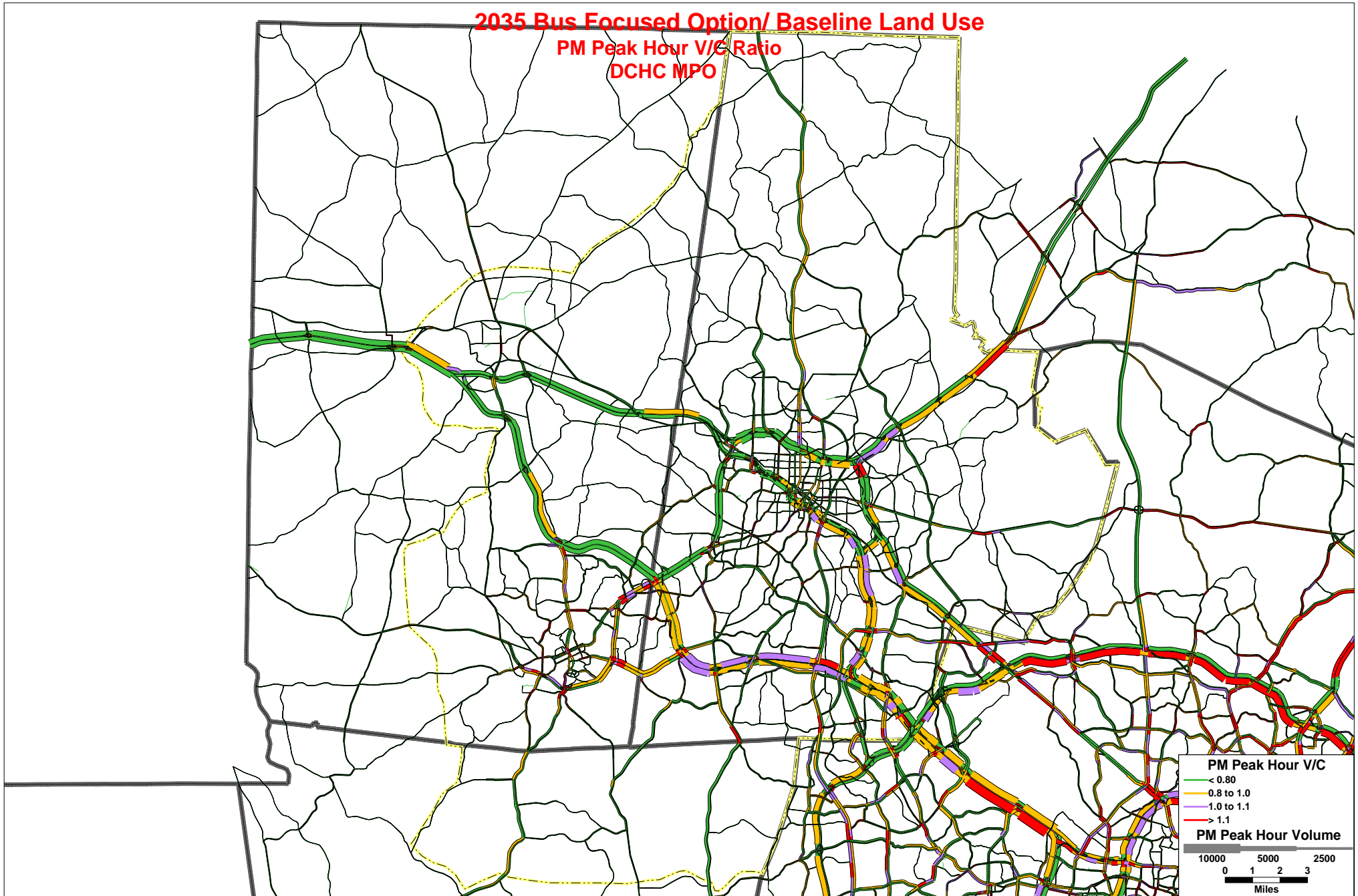
## **Congestion Maps for Transportation Options**

On the following pages, the Congestion Maps are presented in the following order:

1. Existing Plus Committed (used as a benchmark)
2. Bus Transit option
3. Commuter Rail option
4. Rail Transit option
5. Light Rail Transit option

**2035 Existing Plus Committed Network/ Baseline Land Use**  
**PM Peak V/C Ratio**  
**DCHC MPO**

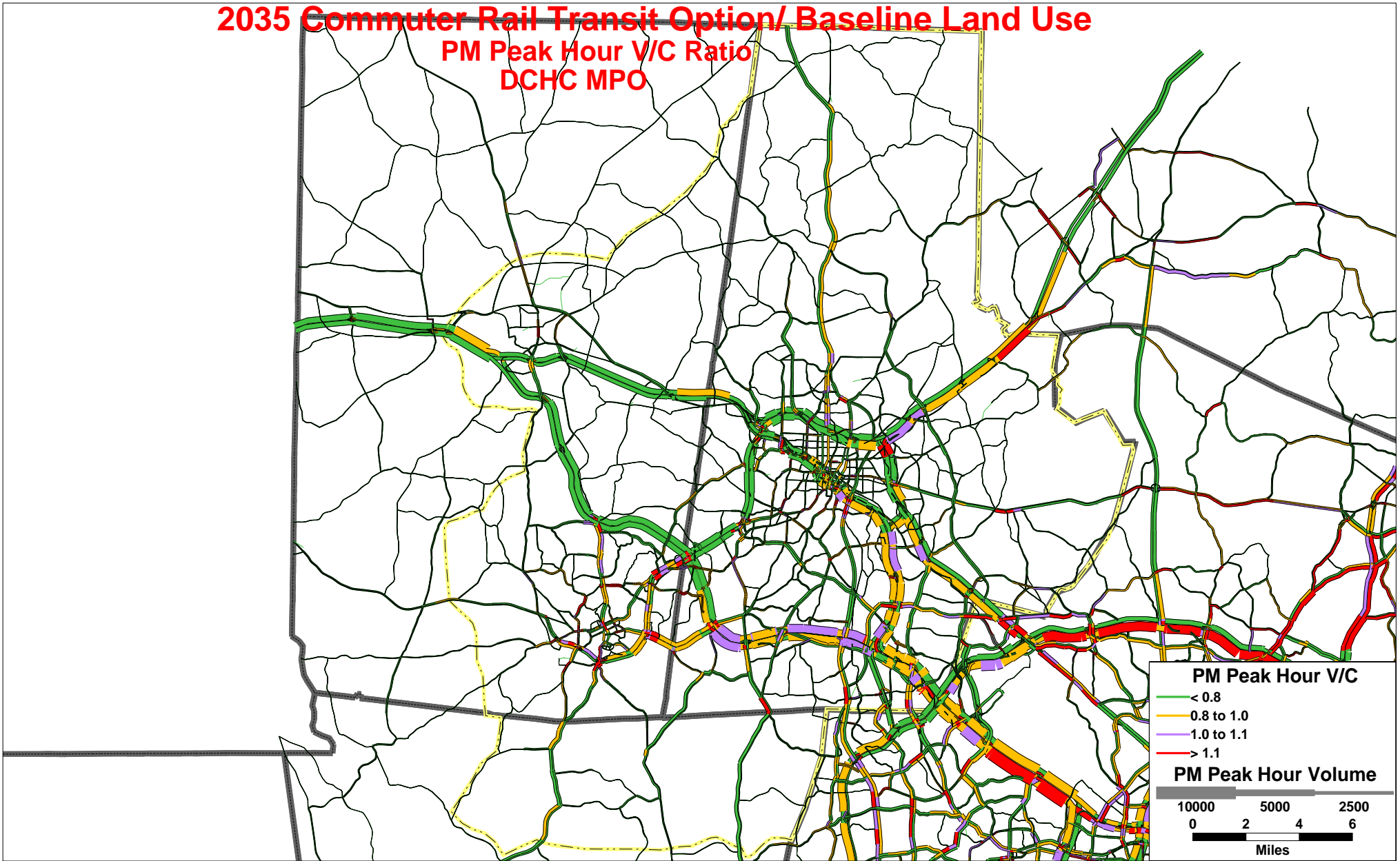




# 2035 Commuter Rail Transit Option/ Baseline Land Use

## PM Peak Hour V/C Ratio

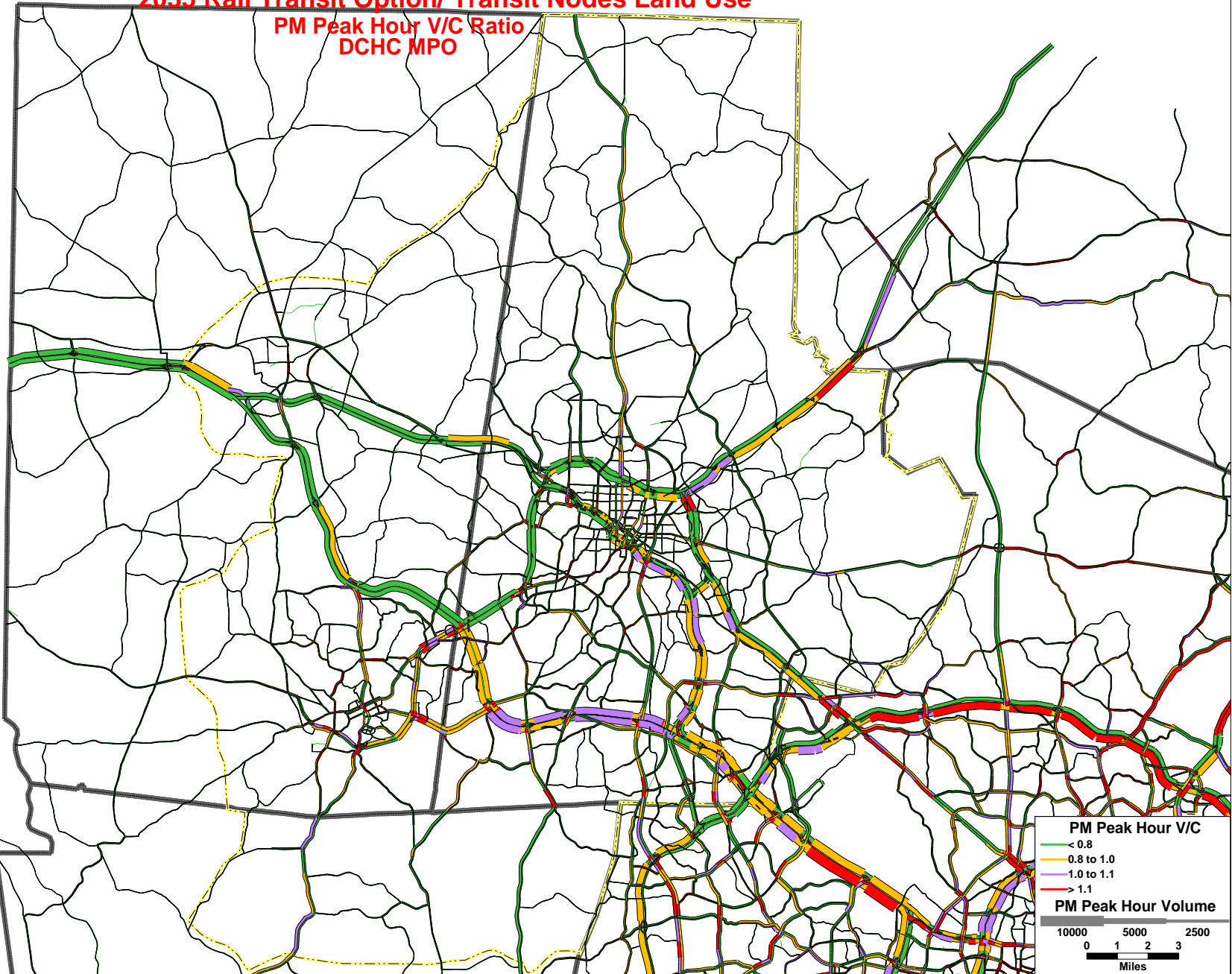
### DCHC MPO





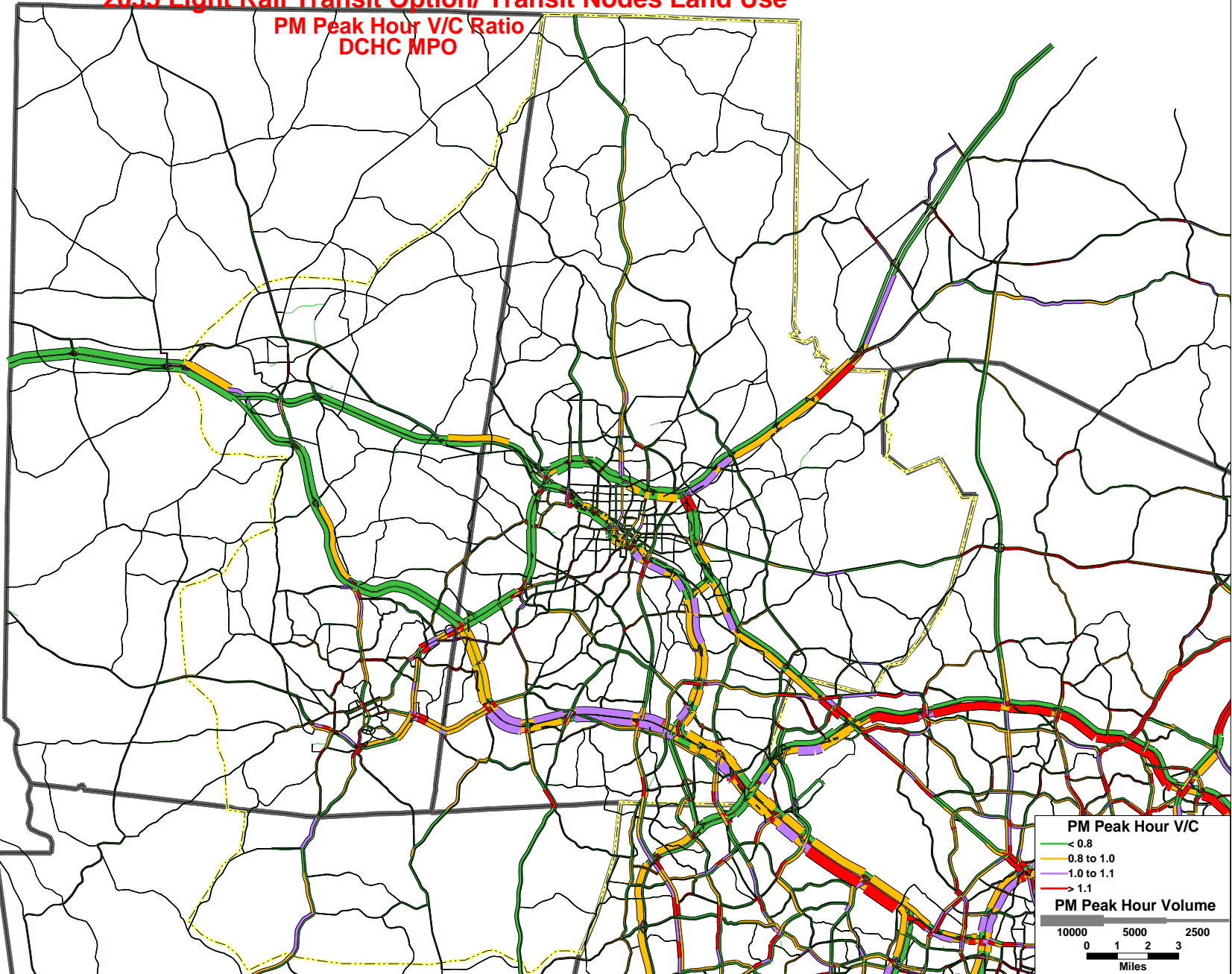
### 2035 Rail Transit Option/ Transit Nodes Land Use

PM Peak Hour V/C Ratio  
DCHC MPO



### 2035 Light Rail Transit Option/ Transit Nodes Land Use

PM Peak Hour V/C Ratio  
DCHC MPO



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