

Concept 12 Summary: Interchanges 3 and 4 CD Road – West

DESCRIPTION

Concept 12 seeks to provide improvements at Interchanges 3 and 4 on I-84 in the eastbound direction with a collector distributor (CD) road starting at the merge of the Lake Avenue off-ramp and the Route 7 northbound on-ramp and ending at the merge with I-84 eastbound (about 1,200 feet in length). Currently, the I-84 traffic in the eastbound direction uses the Lake Avenue exit (Interchange 4) which creates a weaving condition with the Route 7 northbound traffic that merges onto I-84 eastbound. In this concept, the off-ramp to Lake Avenue will be on the CD Road and a median barrier (about 1,500 feet in length) will be installed to prohibit I-84 eastbound traffic from using the Lake Avenue exit, thereby eliminating the weaving condition. However, a short weaving condition (about 500 feet section) is created on the CD Road between the Route 7 northbound entering and Lake Avenue exiting traffic. The CD Road ends with the merge into I-84 eastbound approximately 700 feet east of the Lake Avenue off-ramp. Elements of Concept 12 include:

- New I-84 eastbound off-ramp to Lake Avenue which will become a CD Road at the merge with the Route 7 northbound traffic. This off-ramp will begin just east of the existing off-ramp to Route 7 southbound (Interchange 3).
- New median barrier will be installed between I-84 eastbound and Route 7 northbound to prohibit I-84 eastbound traffic from using the Lake Avenue off-ramp.
- Lake Avenue on-ramp traffic will merge with I-84 eastbound, beyond the CD Road merge.
- Acceleration and deceleration lane lengths for the Lake Avenue ramps will meet design standards.
- 1 new bridge and 4 existing bridges will be replaced.



PROS

- Peak hour delay will be reduced on I-84 eastbound at Interchanges 3 and 4.
- Vehicle queues are eliminated on I-84 eastbound and Route 7 northbound at Interchanges 3 and 4 during peak periods.
- Weaving will be eliminated between I-84 eastbound and the Lake Avenue off-ramp.
- Acceleration and deceleration lane lengths at the I-84 eastbound on and off ramps at Interchange 4 (Lake Avenue) will meet design standards.
- Minimal ROW impact.
- Typical construction methods could be used.

CONS

- Increased congestion on I-84 eastbound beyond Interchange 4 during the P.M. peak period.
- Does not address lane continuity on I-84.
- Does not address the left-hand entrance and exit ramps in the I-84 corridor.
- Creates a short weaving segment on the CD Road between Route 7 and Lake Avenue.
- Lacks consistent design speed throughout the I-84 corridor.
- Does not propose changes to the existing interfaces to local streets at interchanges 1, 2, 5, 6, 7, and 8.
- Interchange 6 remains a partial interchange.
- Does not improve access to downtown and the Danbury Hospital.

RECOMMENDATION

This concept reduces travel time and delays within the limits of the proposed improvement, but it pushes the congestion from one end of the project corridor to the other. This concept is feasible from an engineering and constructability standpoint. The anticipated impacts associated with this concept are minor, with numerous mitigation alternatives available to offset impacts. This concept has a low probability of causing significant or irreparable harm to the natural or human environment.

It is recommended that this concept be combined with a concept that addresses resulting congestion and mobility adjacent to the highway.