

## Concept 21 Summary: I-84 with Collector Distributor (CD) Road to Great Plain Road - East

### DESCRIPTION

Concept 21 seeks to provide improvements in the east section of I-84 within the project corridor. I-84/Route 7 Interchange at Interchange 7 is shifted slightly to the south to achieve a higher design speed. A CD Road is provided in both directions between Great Plain Road and Newtown Road (Interchange 8). Specific elements of Concept 21 include:

- The existing interchange at North Street (Interchange 6) will remain and provide access on I-84 to/from points east.
- The Great Plain Road interchange will also be designated as Interchange 6 and provide direct access on I-84 to/from points west.
- Great Plain Road will provide access to points on I-84 to/from the east via the CD Road and Interchange 8.
- I-84 will be three lanes in each direction between Great Plain Road and Newtown Road.
- CD Road runs parallel to I-84 in each direction.
- CD Road is approximately 1.6 miles in length between Great Plain Road and Newtown Road.
- CD Road will be two lanes in each direction between Great Plain Road and Newtown Road, except for the segment between the Route 7 ramps at Interchange 7 where one lane will be provided.
- Existing left-hand ramps to/from Route 7 will be replaced with right-hand ramps at Interchange 7.
- Weaving on I-84 is eliminated in both directions between Interchanges 7 and 8.
- Acceleration and deceleration lanes will be designed to meet standards on I-84 at Great Plain Road, Interchange 7, and Interchange 8.
- Shoulder improvements will be made along the mainline between Great Plain Road and Interchange 8 (i.e. widen shoulder and upgrade guide rails).
- Interchange 8 is proposed as a diamond interchange.
- The intersection of the Interchange 8 eastbound ramps and Newtown Road is proposed as a roundabout.
- Local street improvements are proposed on Great Plain Road, Newtown Road (SR 806) and U.S. Route 6.
- The U.S. Route 6/Newtown Road intersection is proposed as a roundabout.
- 8 new bridges and remove 14 bridges.



## PROS

- Lane continuity is maintained within the limits of the concept.
- Left-hand ramps are replaced with right-hand ramps at Interchange 7.
- Peak hour delay is reduced on I-84 and Route 7 within concept limits.
- Addresses traffic weaving between Interchanges 7 and 8.
- Horizontal curve is improved on I-84 in the westbound direction at Interchange 7.
- Stopping sight distance is improved on I-84 in the westbound direction at Interchange 7.
- Acceleration and deceleration lane lengths are improved at Interchange 7.
- Typical construction methods could be used.
- Improves access to the Danbury Hospital and downtown.
- Does provide an opportunity to improve pedestrian and bicycle options.
- There are no anticipated impacts to known historic resources.
- There are no anticipated impacts to known 4(f) properties.
- There are no anticipated impacts to cemetery properties.

## CONS

- Results in increased congestion on I-84 past the concept limits.
- Creates a weave on the eastbound CD Road between Interchanges 7 and 8.
- Lacks consistent design speed throughout the I-84 corridor.
- Does not propose improvements at interchanges 1, 2, 3, 4, and 5.
- Significant property impacts.
- Does not improve access to the Danbury Hospital.
- The proposed highway improvements would disturb hydrologic areas, including the streams and drainage features that parallel or cross the highway such as Beaver Brook and Still River. Relocation of Beaver Brook may be required.
- The proposed improvements in this concept are in close proximity to the natural gas transmission pipeline in the vicinity of Great Plain Road and Carolyn Avenue, as well as near Old Brookfield Road just north of Route 7.

## RECOMMENDATION

This concept provides a partial solution. It reduces congestion and improves mobility within the extent of improvements but does not address congestion or mobility outside the limits of the concept. This concept helps achieve a consistent design speed in the east section of the project corridor. This concept will have significant property impacts. Impacts associated with this concept are anticipated to be highly disruptive to large, established commercial and vacant properties, most significantly along Newtown Road/Stony Hill Road due to interchange and local road improvements. However, there is potential mitigation alternatives available to offset these impacts.

Therefore, it is recommended that Concept 21 be advanced further and be combined with a concept that addresses congestion and mobility outside the limits of the concept.