Project History:

The State Route 91 / Aurora Street / Clinton Street intersection has been identified as an operational problem within the coordinated signal system in the City of Hudson. This intersection has consistently been one of the worst performing intersections within the City. Beginning with the first studies which were completed for the then called "Downtown Development", now known as *First and Main*, the Clinton / Aurora intersection was identified as the key north / south bottleneck within the city. Its status as a problem intersection was further noted in the corridor and timing studies which followed the opening of the *First and Main* shopping district. One of the recommendations in these studies which has been implemented, is the institution of the Peak Hour Left Turn restriction northbound during the AM and PM Peak hours. GPD Group, working with the City has optimized the signal timings within the City of Hudson since the opening of First and Main, however the improvement which can be made to the network is limited due to the current intersection geometry. The way the streets are misaligned requires the of use of "split-phase" operation - separate greens for the side streets, which usually operate under one green. The effects of this split phase operation are made worse by the location and of the pedestrian crosswalk which, when a walk is activated, requires a red in all directions.

The City of Hudson retained GPD Group in 2008 to review the possible options for improvement of the intersection.

Description of Options:

Twenty-one (21) options involving restriping, signal timings and/or relocating existing roadways (intersection approaches) were created and evaluated as part of the alternates study. Lanes, sidewalks, and tree lawn widths varied for each option to minimize the impacts. A complete list of options evaluated is available in the Draft Alternates Study. Through review of the study and the analysis completed, City Staff and GPD have selected five (5) alternates to present to City Council. An additional option, #8, was evaluated at Council's request. It is anticipated that a preferred alternate will be selected from this list for further study and /or design. A summary description of the alternates is provided below:

Option 1A-1

Clinton Street will be realigned roughly 40' south of the existing alignment to intersect Aurora Street which will be realigned 40' north of its existing alignment. The existing pavement will be removed. Two buildings, including a historical property, will be removed. The existing street parking will be eliminated on Aurora Rd. in favor of a dedicated left turn lane and thru-right turn lane. A dedicated left turn lane is also added to Clinton Street. Dedicated left turn lanes are added to SR 91 through the elimination of on street parking. The current pedestrian crosswalk used to cross SR 91 will be restriped north of the intersection.

Option 2D

The approach on Clinton Street to the SR 91 intersection will be eliminated. Drivers will be directed by new signage to avoid using Owen Brown Street. Drivers wanting to turn left from Clinton Street must use Morse Rd. to Prospect Street. Traffic from the eliminated access point on Clinton Street would be redistributed to enter and exit the shopping district on Library Street, Park Lane and Prospect Street.

Option 4A

Clinton Street will be redesigned as a westbound one-way street from 1st Street to SR 91. Traffic from the eliminated exiting access point on Clinton Street would be redistributed to exit the shopping district on Library Street, Park Lane and Owen Brown Street.

Option 8

Clinton Street will be redesigned as an eastbound one-way street from 1st Street to SR 91. The eastbound lane configuration at the SR 91 / Clinton Street / Aurora Street intersection would consist of a left turn lane and a thru-right lane. Traffic from the eliminated entrance access point on Clinton Street would be redistributed to enter the shopping district on Park Lane and Morse Road (via Prospect Street). Drivers will be directed to use Morse Road by new signage at the Prospect Street / SR 91 intersection. The current pedestrian crosswalk used to cross SR 91 will be restriped north of the intersection.

Network Modeling:

Utilizing the background traffic data as well as the volume data created by the traffic redistribution associated with each alternate, network modeling was performed. The network modeling is done in order to determine the effect of a configuration change not only at the intersection where the change is proposed, but also to determine the effect of the change throughout the network. The output result of the network modeling is provided in terms of total delay for each option in the attached chart. This analysis did not evaluate the impacts of any significant network or traffic changes beyond the proposed scenarios. Examples of those changes are: a proposed connector road, or a significant development in the area, such as the second phase of the Downtown Development.

Recommendation:

Although a total intersection realignment might provide the best ultimate functional characteristics, the Engineering staff believes that Option 2D will provide almost as good a reduction in delay and improved performance for a small fraction of the cost and impact of Option 1. Therefore the Engineering Department recommends Option 2D be further studied and that a detailed implementation plan be developed as a part of the Downtown Corridor Improvement plans.