

Re-imagining Hillyard: One-Way Couplet Conversion to Two-Way Streets

Project Description

The Market/Haven Couplet Conversion Project re-envisioned a key transportation corridor in Spokane's Hillyard neighborhood, a historically disadvantaged community now experiencing renewed investment. The existing one-way couplet prioritizes vehicle throughput, creating unsafe, vehicle-oriented streets that hinder revitalization. With regional traffic expected to shift to the new Freeway Corridor, the project assessed the feasibility of converting Market and Haven Streets to two-way operations to calm speeds, improve multimodal safety, and strengthen the business district. The Northeast Public Development Authority (NEPDA), responsible for neighborhood revitalization, served as the project client.

Community Outreach and Alternative Development

A four-student civil engineering team conducted extensive outreach, including Neighborhood Council meetings and a business owner focus group, guided by two faculty advisors and two design advisory board members, all of which were professional engineers. Residents emphasized slower speeds, safer crossings, and better pedestrian facilities, while business owners cited fast traffic, limited crossings, and difficulty attracting foot traffic. This feedback shaped three alternatives: (1) Restore the Grid, (2) Two-Way with Signals, and (3) Two-Way with Roundabouts.

Technical Tasks

Technical tasks included traffic data collection, crash analysis, and development of 12 Synchro and VISSIM microsimulation models for existing and 2050 conditions. A pedestrian safety audit with the local Health District identified needs such as wider sidewalks, enhanced crossings, and maintaining access to the regional bicycle path. Business district concepts were developed using NACTO Urban Street Design guidance and visualized with StreetMix and 3DStreet.

Intersection concepts at the couplet ends were engineered in Civil3D, with 20 alternatives explored due to complex geometry. The south roundabout required an innovative spiral design to accommodate freight vehicles. Alternatives were evaluated using traffic performance metrics and qualitative social and environmental criteria from the Neighborhood Council and NEPDA.

Results

The study concludes that two-way conversion is feasible, cost-effective, and strongly aligned with Hillyard's revitalization goals. The redesign supports safer streets, improved multimodal access, and a more vibrant business district, positioning the City and NEPDA to pursue grant funding for final design and construction. The project provided students with hands-on, real-world project experience with an extensive community outreach. The one-on-one mentoring by four professional engineers created learning experiences beyond the reach of traditional classroom experiences and provided valuable insight into the engineering profession.