TRUCK REREOUTING AND ROAD EXTENSION PLAN

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Project Goals

Every day, many heavy trucks pass through West Branch, Iowa, traveling between the interstate and the quarry northwest of town. Their current route requires turning from South Downey Street onto Main Street and then onto North Downey Street—two turns that are particularly difficult due to tight intersection radii.

These constrained turns create unsafe conditions, as large trucks struggle to navigate without crossing lanes or slowing traffic significantly. The result is frequent congestion, increased risk of accidents, and disruption to the downtown area.

Given these ongoing issues, our client Adam Kofoed, the City Administrator of West Branch, Iowa, has requested that we evaluate alternative routing options or intersection improvements. The goal of these alternatives would be to better accommodate truck traffic, enhance safety, and reduce the burden on West Branch's downtown streets. Two Alternatives have been designed.

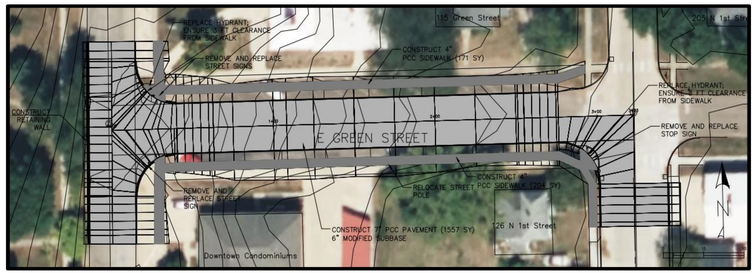
Aerial Site Map

Truck making a tight turn on Main Street

References

- SUDAS
- AASHTO – Bridge design manual
- Iowa DOT Transportation manual

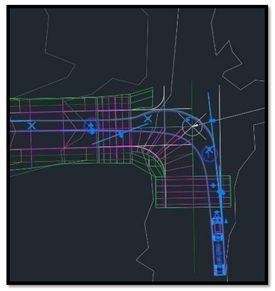
Short Term Solution – Green Street



Design Concept. The proposed short-term solution would reroute truck traffic one block north of Main Street, with trucks making their turns at Green Street instead. This intersection allows for a wider turning radius (about 25 feet), making it easier and safer for large trucks to navigate.

Design Features. As part of this improvement, The current seal coat pavement and PCC sidewalk will be removed and reconstructed, with PCC being installed in the new roadway. In addition, the retaining wall along North Downey St would be repaired and rebuilt. Two fire hydrants along the route will be located after construction.

Advantages/Disadvantages. This choice is quicker and less expensive to complete than the other alternative. However, it does not eliminate truck traffic through town. Trucks would still travel through West Branch, so some impacts like congestion and safety concerns would remain. This solution is intended as a short-term improvement while longer-term options are explored.



Green Street Vehicle Tracking

Existing Retaining Wall

These pictures show Green Street and 4th Street in their current condition. Both roads need to be reconstructed to widen the road, increase the strength of the pavement to be adequate for truck loads, and include curb and gutter.

Construction Cost Estimate

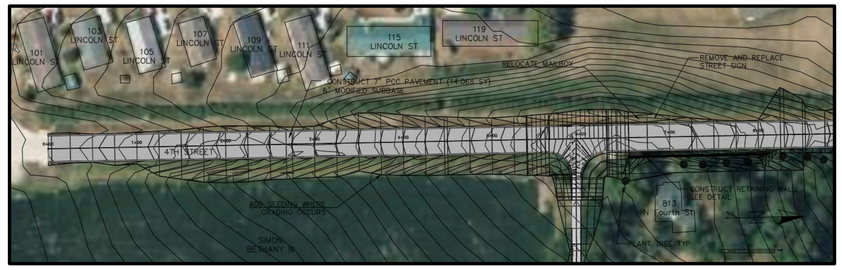
- **Green Street Alternative: $441,718**

Construction cost components include demolition of existing roadways and sidewalks, installation of PCC sidewalk and roadways, installation of storm intakes and piping, and removal and replacement of all roadway signage

- **4th Street Alternative: $ 3,725,977**

Construction cost components include demolition of existing roadways and intersections, removal of trees alongside the western roadway, installation of PCC pavement, and significant site grading

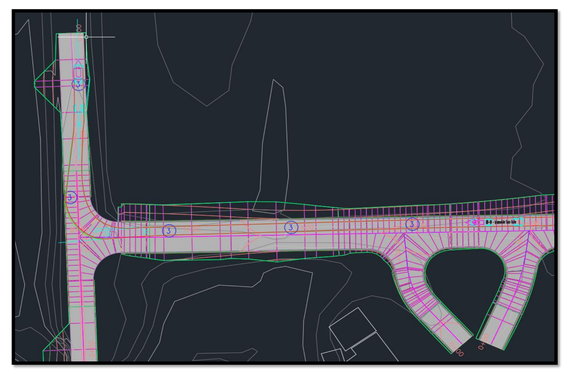
Long Term Solution – 4th Street



Design Concept. The proposed long-term solution reroutes truck traffic away from downtown. Trucks would turn east from South Downey Street, then head north on 4th Street, then west on 280th Street. This route keeps heavy truck traffic out of the downtown area, improving pedestrian safety and reducing traffic congestion.

Design Features. To make this route suitable for trucks, some improvements are needed along 4th Street. Due to the steep elevation change, as seen in the photo below, a portion of the residence at 813 North 4th Street would need to be lowered. This would require redesigning the access to their property. In addition, a retaining wall approximately 6 feet tall would be constructed on 4th Street to help manage the grade. These changes ensure the road meets acceptable truck route standards, keeping the slope within the recommended 9–11% range.

Advantages/Disadvantages. This alternative completely bypasses the downtown area, taking trucks east and away from downtown. An existing portion of 4th street has already been reconstructed, minimizing the scope of the project. However, this alternative comes with a higher construction cost and will involve a longer construction timeline.



4th Street Vehicle Tracking

Existing Bridge