

## **A Street Rail Safety Improvements (Rainier)**

**KN19462**

### **Construction Staging Analysis**

**9/21/2017**

**Reference: Staging Plans – Recommended, Alternative A, and Alternative B (see 11x17 drawings)**

**Recommended Construction Staging – Rail then Street:** Railroad contractor goes first. Once they complete several blocks of rail reconstruction, the street contractor follows behind, reconstructing one side at a time to allow for traffic. This scenario has two contractors on the project at the same time. Two work zones active at the same time, separated by a one to two block buffer.

- Pros:
  - Shortest construction schedule (11 months, same as Alternative B)
  - 4 stages of construction.
  - The rail contractor can potentially begin work on the east end before the street contractor is awarded a project
  - Eliminates conflicts of road cross grades (see Alternatives A and B).
  - Rail construction during dry weather
- Cons:
  - Will have one-way flagged traffic during the work shifts. Potentially two way traffic at night.
  - No on-street parking during active work zones.
  - May need temporary stormwater treatment.
  - Rail contractor will need to return in winter after curbs are constructed to finalize track and install signals

**Alternative A – Street then Rail:** Street contractor builds north side improvements first and then leaves the project. Then the railroad contractor reconstructs railroad. Then street contractor returns to reconstruct the remainder of the street and build the median curbs. Unfortunately, elevations between the widened portions of the road and the existing road make this alternative not feasible.

- Pros:
  - Accommodates two-way traffic for subsequent stages.
  - Only one contractor working at a time. Less congestion on the corridor.
  - No temporary stormwater treatment needed.
- Cons:
  - 6 stages of construction
  - Longest construction schedule (14 months)
  - The placement of the curb 9' from track centerline raises the roadway and creates excessive road cross slopes creating drainage issues through the winter..
  - The rail construction period in the Fall will likely be wet and the open trench will collect water and result in difficult rail construction.
  - Requires temporary track crossings.

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**Alternative B – Street and Rail Overlap:** Same as Plan A except once the street contractor has a couple blocks done, the railroad contractor begins work and follows behind. . This scenario has two contractors on the project at the same time. Two work zones active at the same time, separated by a one to two block buffer. Unfortunately, elevations between the widened portions of the road and the existing road make this alternative not feasible.

- Pros:
  - Constructs north side roadway improvements first and begin rail work once a two-block buffer for traffic control is possible.
  - Allows railroad construction to start earlier.
  - 5 Stages of construction
  - Shortest construction schedule (11 months, same as Recommended Construction Staging)
  - No temporary stormwater treatment needed.
- Cons:
  - The placement of the curb 9' from track centerline raises the roadway and creates excessive road cross slopes. This raises the curb line and will create drainage issues through the winter phasing.
  - Rail contractor could incur delays while waiting for the street contractor to complete construction of their stage.
  - Wet weather rail construction.
  - Requires temporary track crossings.