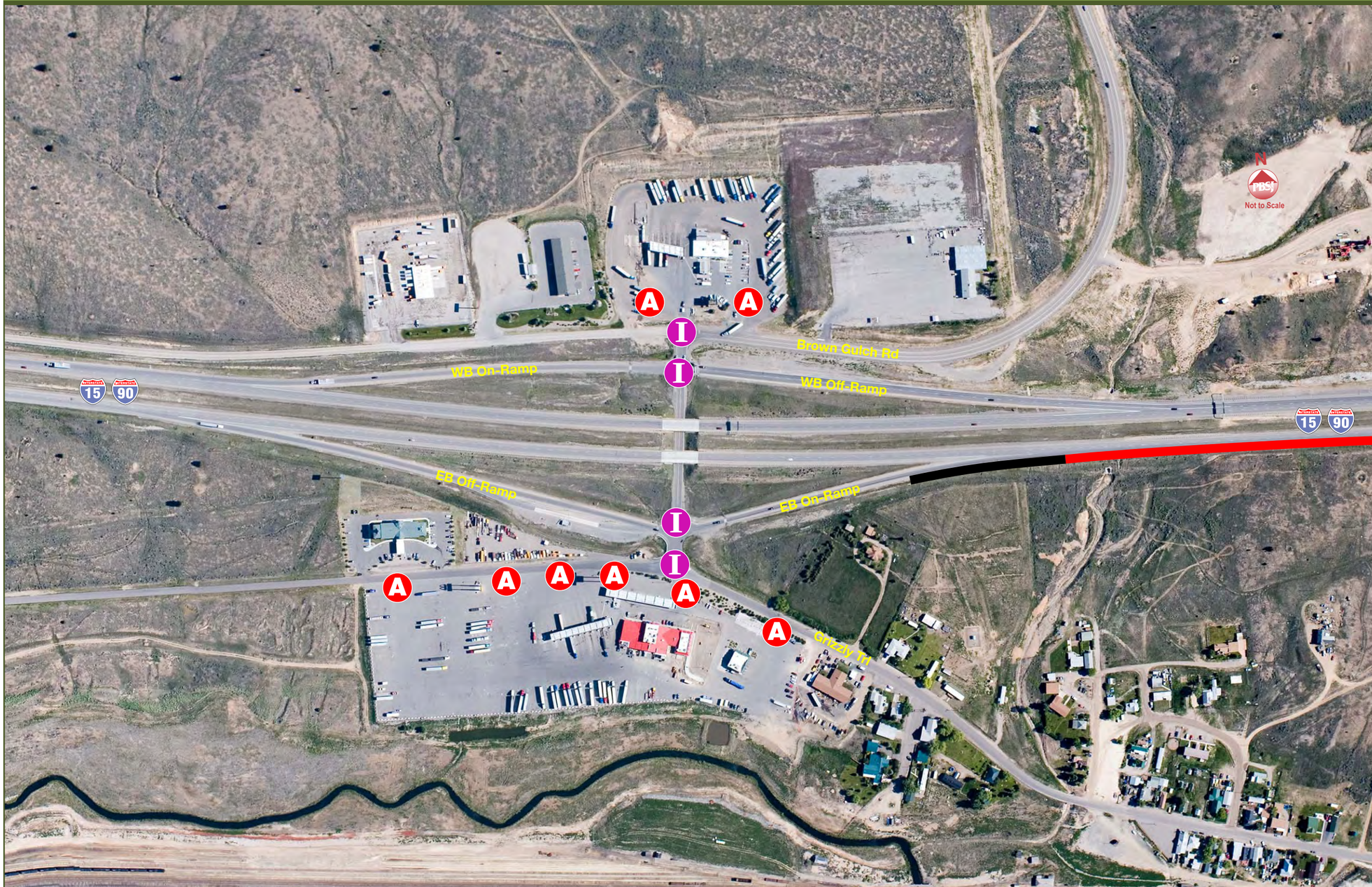
ROCKER INTERCHANGE



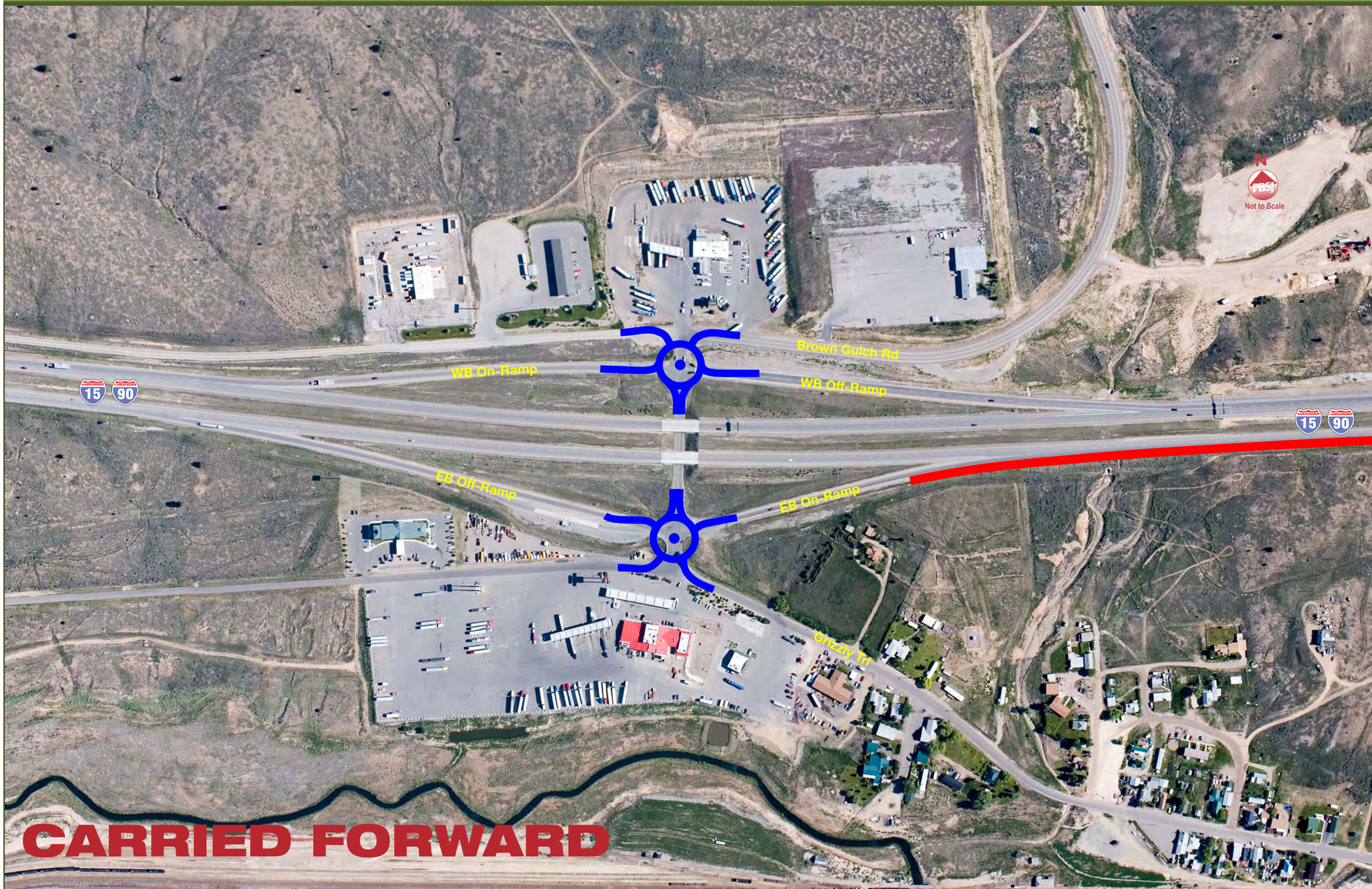
Legend

- Access Control Issues
- Intersection Deficiencies
- Deficient Acceleration Lane (Existing)
- Acceleration Lane (Required)

Deficiencies

- Intersection Sight Distance
- Intersection Spacing
- Intersection Geometry (radiuses, turning movements)
- Access Control Issues
- Deficient Acceleration Length (EB on-ramp)
- Deficient Guardrail lengths

ROCKER INTERCHANGE



Legend

Option 1

Extend Acceleration Lane

Option 1

Combine frontage road and ramp terminal intersections into one single lane roundabout on each side of the intestate. Develop a continuous acceleration/auxiliary lane for the eastbound on-ramp (common for all option 1 and 2).

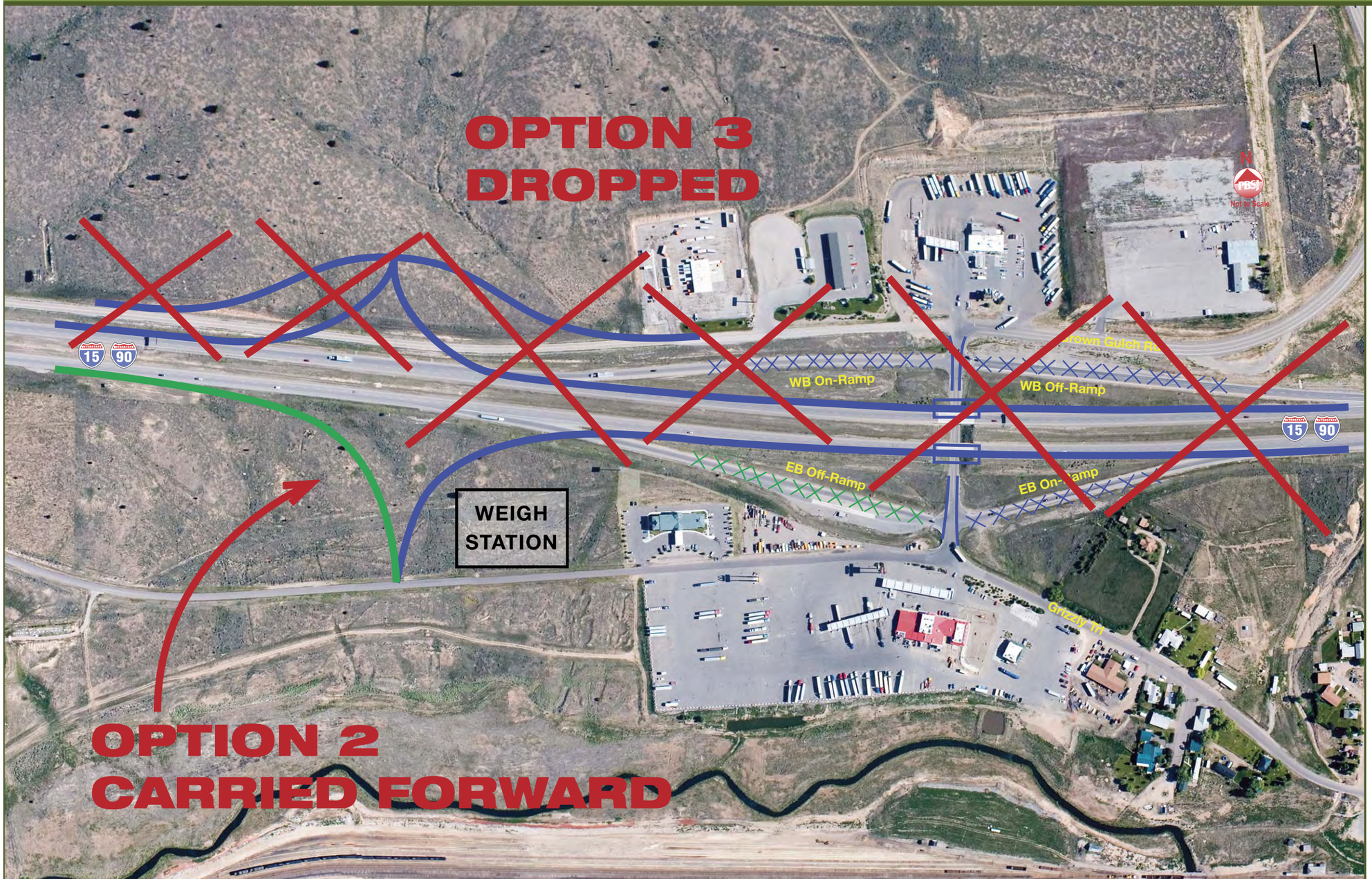
Pros:

- Eliminates intersection spacing problem
- Eliminates intersection sight distance issues
- Improves geometry for turning movements
- Corrects access issues
- Safest and most efficient operations

Cons:

- High truck volume will require large roundabouts
- Truck operations at roundabout.
- EB off-ramp weigh station will need to be relocated
- Requires significant access changes to truck stops
- Westbound off-ramp will need to drop to one lane at roundabout

ROCKER INTERCHANGE



Legend

- Option 2
- Option 3
- Remove in Option 2
- Remove in Option 3

Option 2/3

Option 2 – Relocate EB off-ramp west and tie into south frontage road.

Option 3 – Relocate other three ramps west into a button hook configuration. EB on-off ramps will tie into south frontage road, WB ramps tie into a relocated north side frontage road.

Pros:

Option 2

- Eliminates tightest intersection configuration

Option 3

- Eliminates intersection spacing and intersection sight distance issues
- Relocates traffic away from access control issues
- Provides acceleration lane on flatter grade for EB on-ramp

Cons:

Option 2

- EB off-ramp weigh station will need to be relocated
- Does not improve intersection issues at north side intersections.
- Proximity of relocated ramp to Nissler Interchange

Option 3:

- EB off-ramp weigh station will need to be relocated
- Proximity of relocated ramps to Nissler Interchange
- Requires widening of bridges over Rocker Road

WEST BUTTE INTERCHANGE

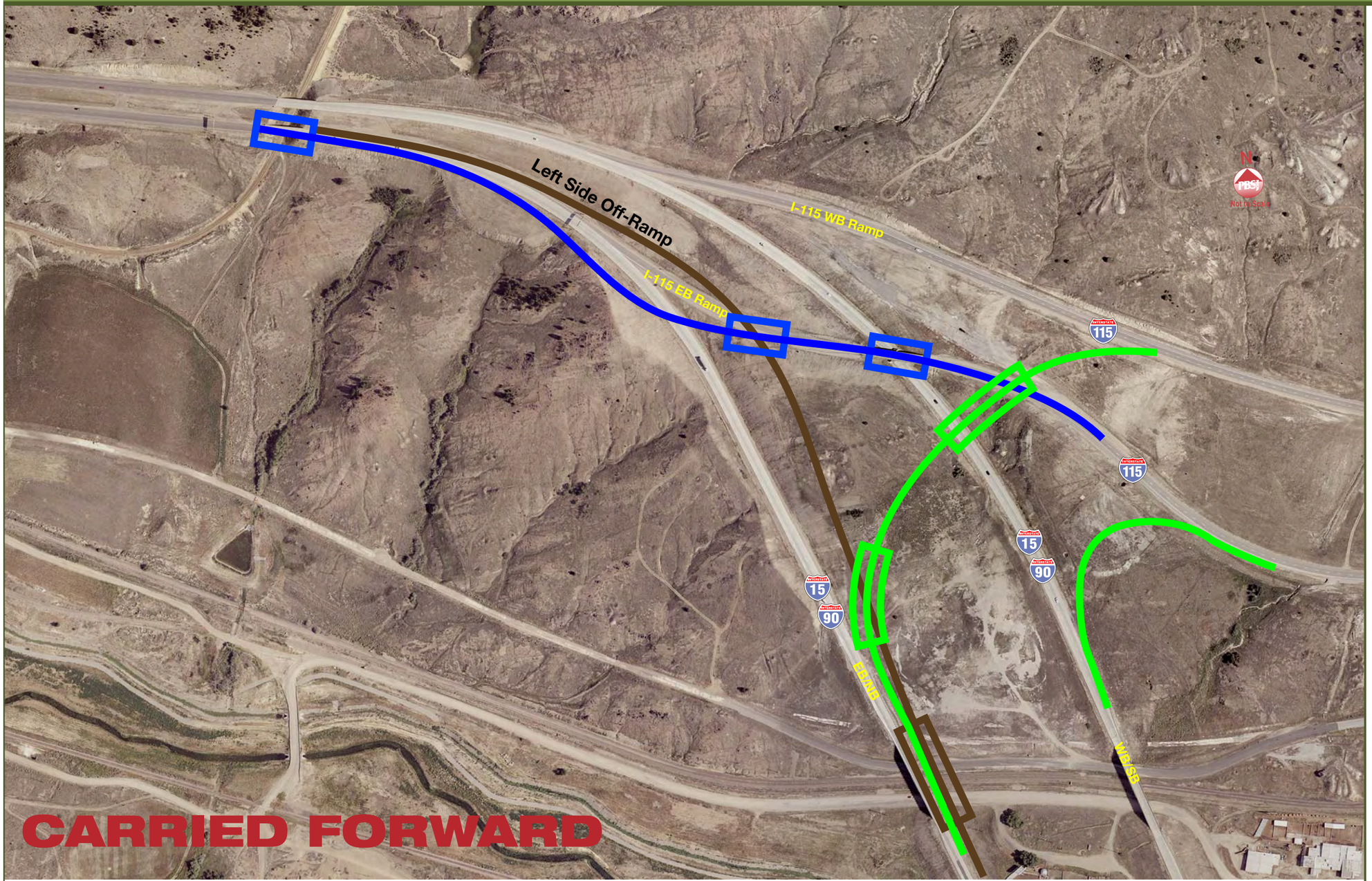
Legend

- Deficient Radius
- Poor Lighting
- Functionally Obsolete Bridge
- Confusing Signs
- CZ — Horizontal Curvature

Deficiencies

- Ramp Geometry
- Left side Off-ramp
- Horizontal Curvature (EB I-15/90 & EB I-115)
- Non-recoverable Side slopes
- Functionally Obsolete Bridges
- Confusing Signs
- Poor Lighting
- Deficient Guardrail lengths
- Not a full movement interchange

WEST BUTTE INTERCHANGE



Legend

- Option 1
- Option 2
- Mainline Realignment

Option 1/2

Option 1 – Relocate EB ramp to I-115 to a right side exit with new bridges over EB and WB I-15/90. Improve EB I-15/90 horizontal curvature (common to all options).

Option 2 (Full Movement) – Provide WB I-15/90 to EB I-115 ramp and WB I-115 to EB I-15/90 flyover ramp with bridges over EB I-115/WB I-15/90 and EB I-15/90.

Pros:

Option 1

- Eliminates left side exit (eliminating confusing signage)
- Moves off-ramp diverge away from curve
- Improves horizontal alignment on I-115

Option 2

- Provides full movement system level interchange

Cons:

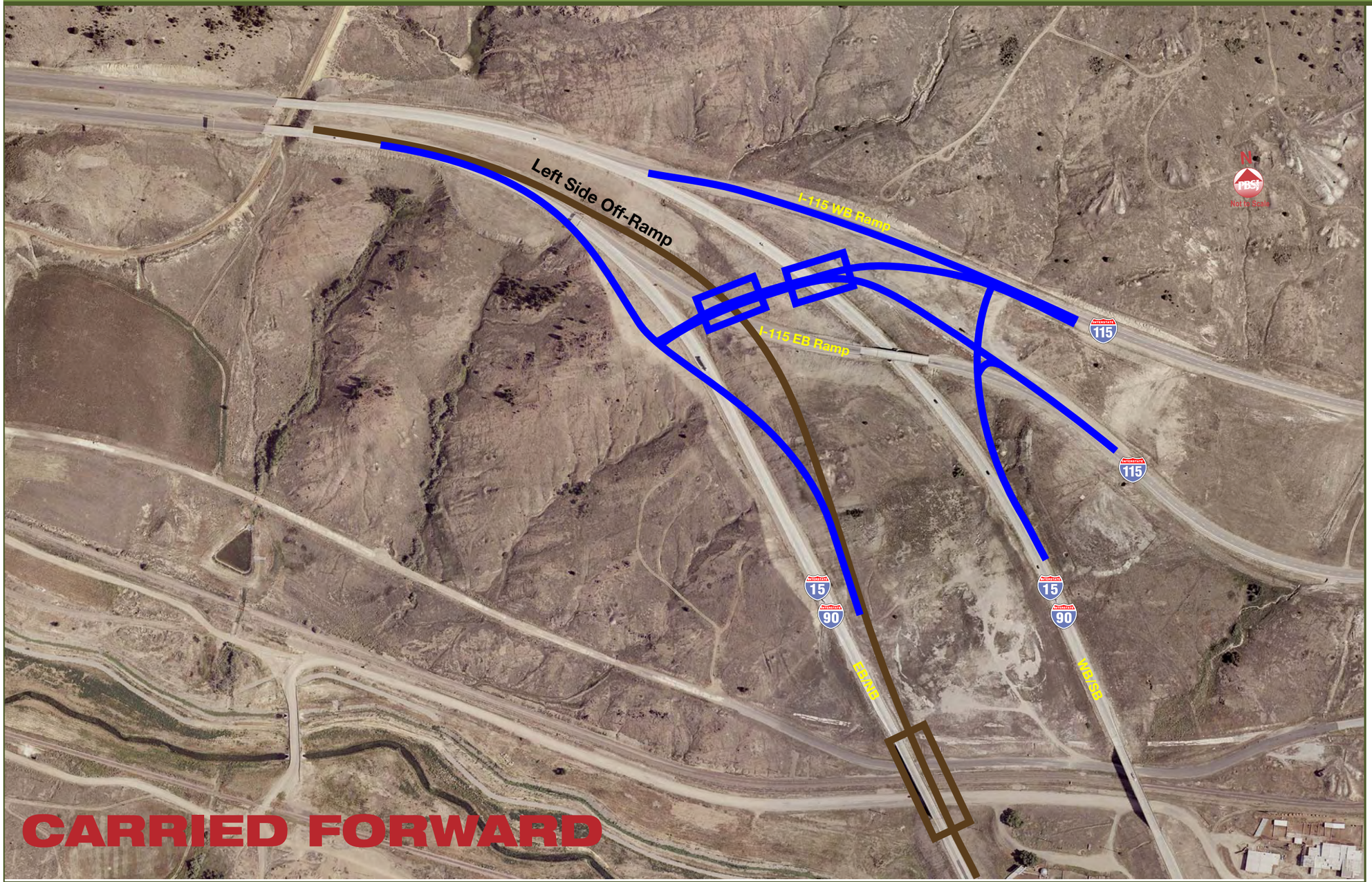
Option 1

- High costs for improvements to one ramp

Option 2

- Added ramps will likely experience very low traffic volumes
- High costs for low volume of traffic
- Potential grade issues on WB I-115 to EB I-15/90 ramp

WEST BUTTE INTERCHANGE



Legend
Option 3
Mainline Realignment

Option 3

Option based on reclassifying I-115 to a primary route. Reconfigure interchange ramps to a diamond configuration. Maintain WB I-115 to WB I-15/90 ramp in current configuration.

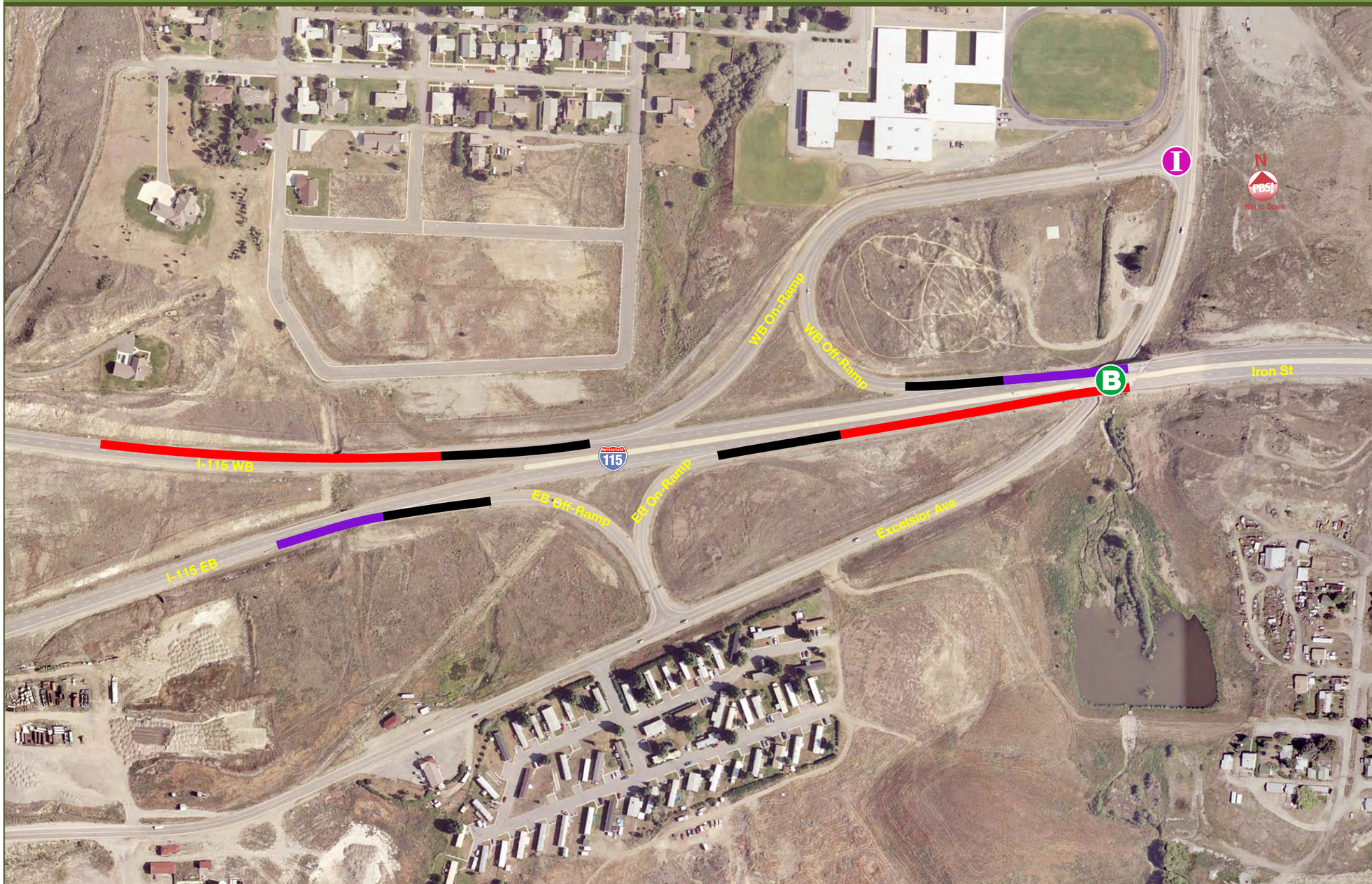
Pros:

- Provides a full movement interchange

Cons:

- Changes operation of existing ramps to include intersection control
- Potential grade issues on EB on-ramp
- EB on-ramp and WB off-ramp likely will have very low traffic volumes
- Requires downgrading process

EXCELSIOR AVE INTERCHANGE



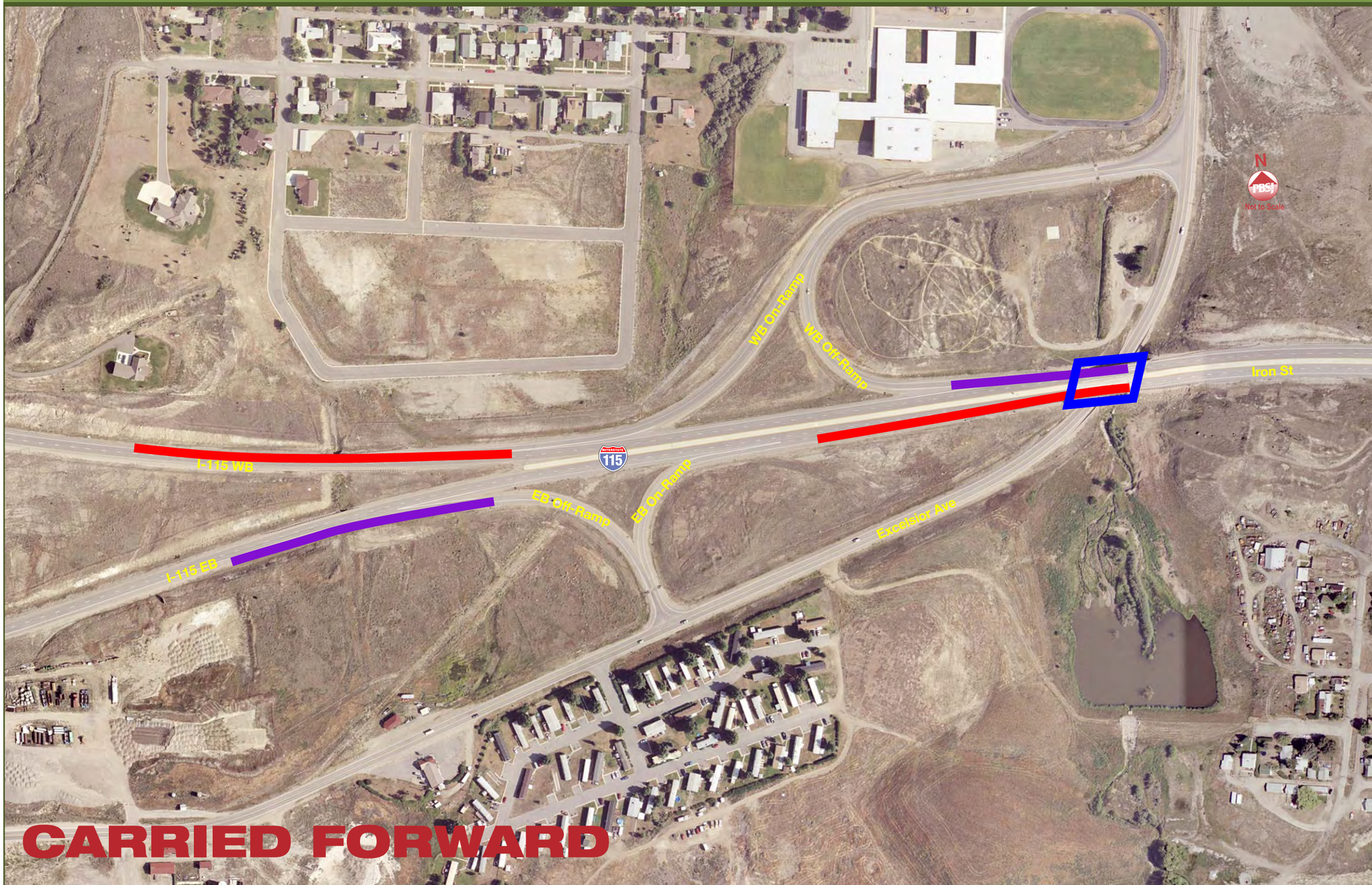
Deficiencies

- Deficient Deceleration Length (EB and WB off-ramps)
- Deficient Acceleration Length (EB and WB on-ramps)
- Ramp Geometry (Tight Curvature)
- Functionally Obsolete Bridges
- Deficient Guardrail lengths

Legend

- Intersection Deficiencies
- Functionally Obsolete Bridge
- Deficient Acceleration Lane (Existing)
- Acceleration Lane (Required)
- Deficient Acceleration Lane (Existing)
- Acceleration Lane (Required)

EXCELSIOR AVE INTERCHANGE



Legend

- Option 1
- Extend Acceleration Lane
- Extend Deceleration Lane

Option 1

Extend acceleration and deceleration lane to appropriate lengths, widen bridge over Excelsior Avenue accordingly.

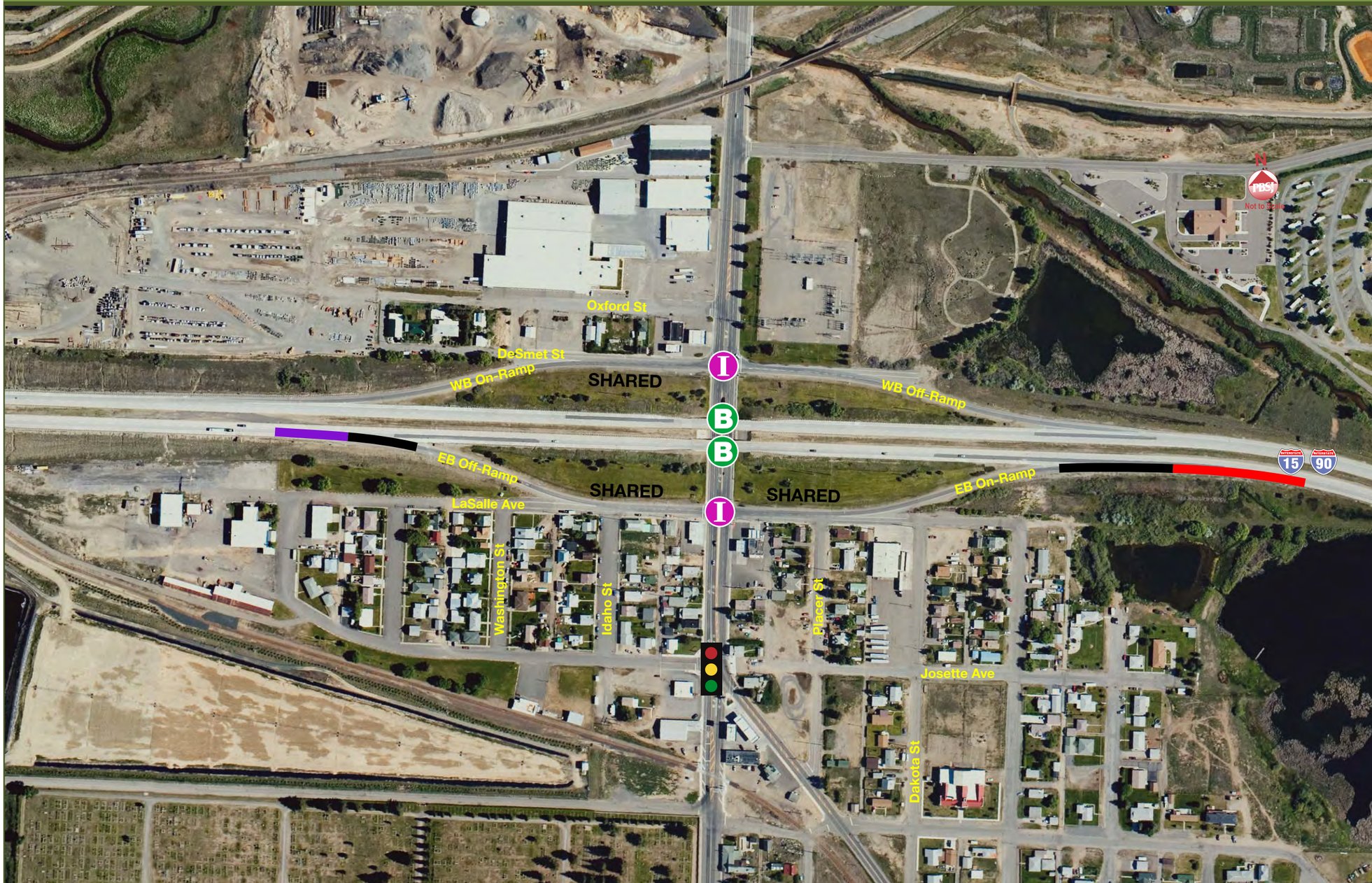
Pros:

- Extended ramps allow existing tight ramp geometry to be utilized
- Brings ramps up to current design standards

Cons:

- Potentially no work required if I-115 is reclassified to a primary route.

MONTANA ST INTERCHANGE



Deficiencies

- Access Control Issues
- Ramp Configurations (shared ramps and frontage roads)
- Functionally Obsolete Bridges
- Intersection Spacing
- Intersection Sight Distance
- Intersection Geometry (radiuses, turning movements)
- Deficient Acceleration Length (EB on-ramp)
- Deficient Deceleration Length (EB off-ramp)
- Ramp terminals meet signal warrants

Legend

- I — Intersection Deficiencies
- B — Functionally Obsolete Bridge
- Deficient Acceleration Lane (Existing)
- Acceleration Lane (Required)
- Deficient Deceleration Lane (Existing)
- Deceleration Lane (Required)

MONTANA ST INTERCHANGE

Legend

- Option 1
- Option 2
- Eliminate Parking
- Extend Acceleration Lane
- Extend Deceleration Lane

Option 1/2

Complete minor improvements including ramp terminal traffic control improvements (signals Option 1 or roundabouts – Option 2), extend EB deceleration and acceleration length, and provide physical delineation separating the shared ramp and frontage roads.

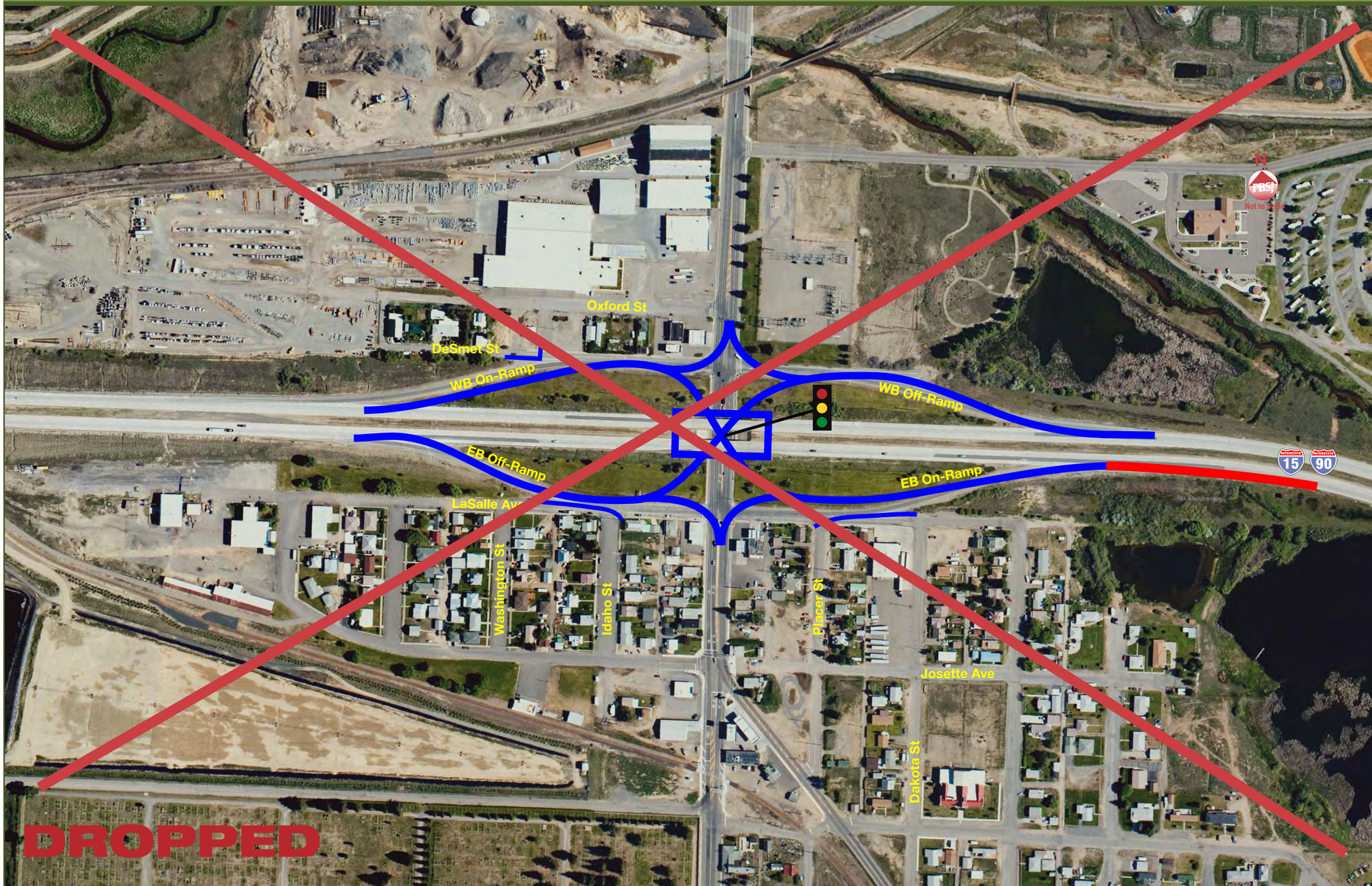
Pros:

- Solves majority of intersection deficiencies
- Eliminates shared ramp and frontage roads
- Low cost improvements

Cons:

- Traffic signals would be closely spaced with Rowe Road signal
- Roundabouts may need to be two lanes on Montana Street
- Does not address functionally obsolete bridges over Montana Street

MONTANA ST INTERCHANGE



Legend — Option 3

Option 3

Completely reconfigure interchange to a Single Point Urban Interchange configuration. Replace bridges over Montana Street and eliminate shared ramp and frontage roads.

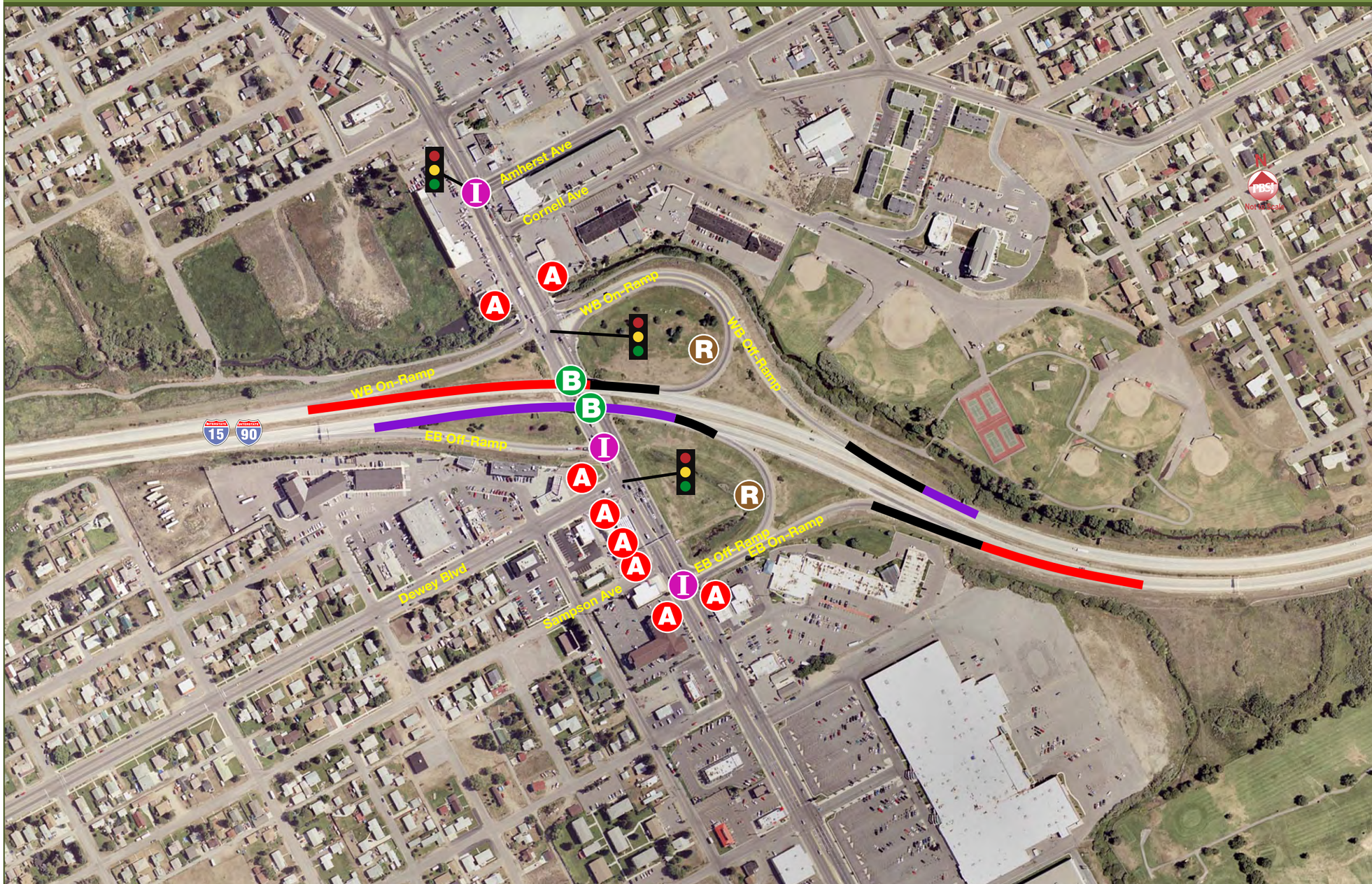
Pros:

- Provides good spacing with Rowe Road intersection
- Improves radiuses and turning movements
- Replaces functionally obsolete bridges

Cons:

- High costs
- Will require raising interstate mainline

HARRISON AVE INTERCHANGE



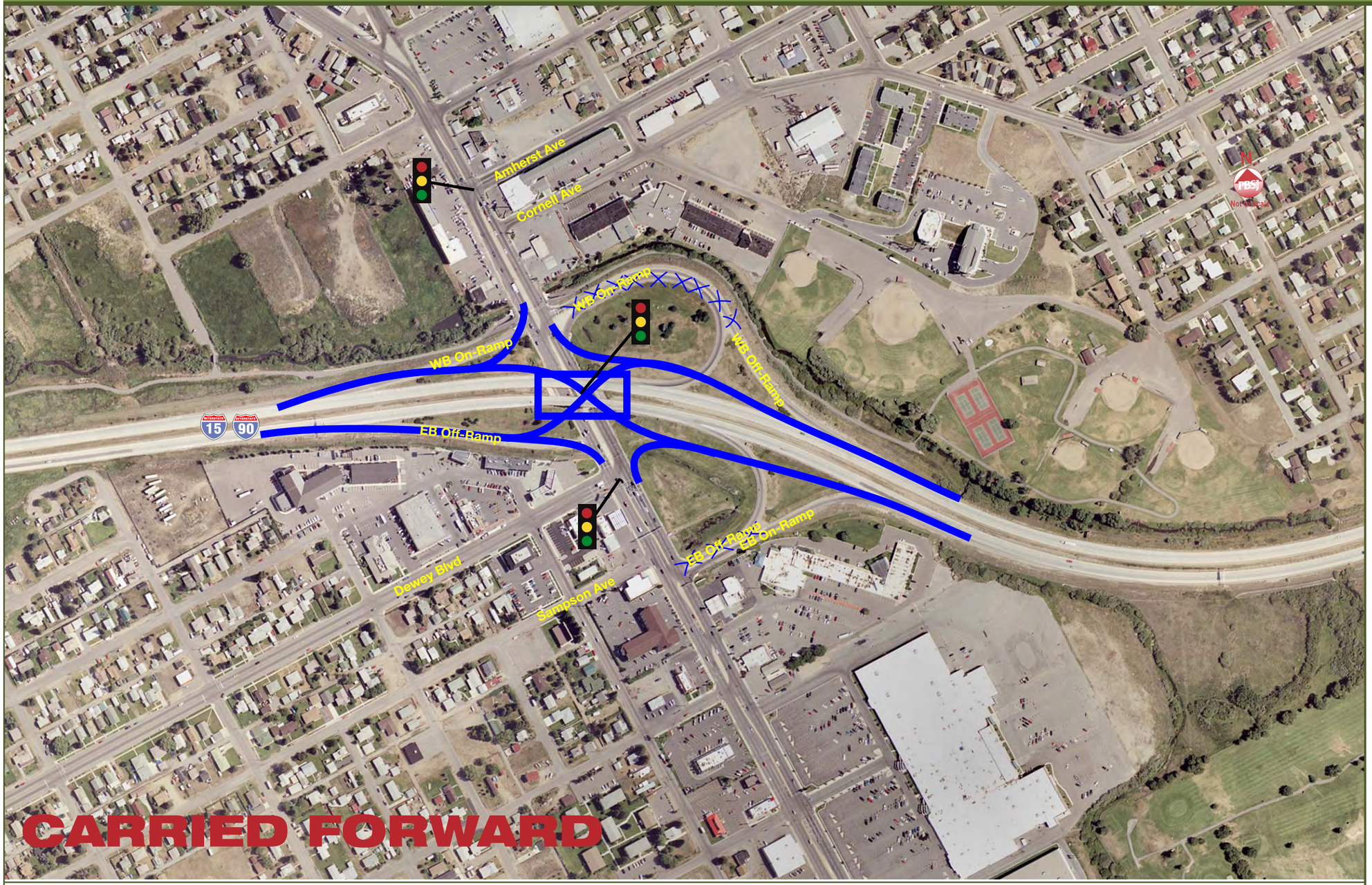
Deficiencies

- Deficient Deceleration Length (EB off-ramp (loop), WB off-ramp)
- Deficient Acceleration Length (WB on-ramp (loop), EB on-ramp)
- Ramp Geometry Issues
- Intersection Spacing
- Intersection Sight Distance
- Intersection Geometry (radiuses, turning movements)
- Access Control Issues
- Functionally Obsolete Bridges

Legend

- A — Access Control Issues
- I — Intersection Deficiencies
- B — Functionally Obsolete Bridge
- R — Deficient Radius
- Deficient Acceleration Lane (Existing)
- Acceleration Lane (Required)
- Deficient Acceleration Lane (Existing)
- Acceleration Lane (Required)

HARRISON AVE INTERCHANGE



Legend

Option 1

Remove in Option 1

Option 1

Completely reconfigure interchange to a Single Point Urban Interchange configuration. Replace bridges over Harrison Avenue.

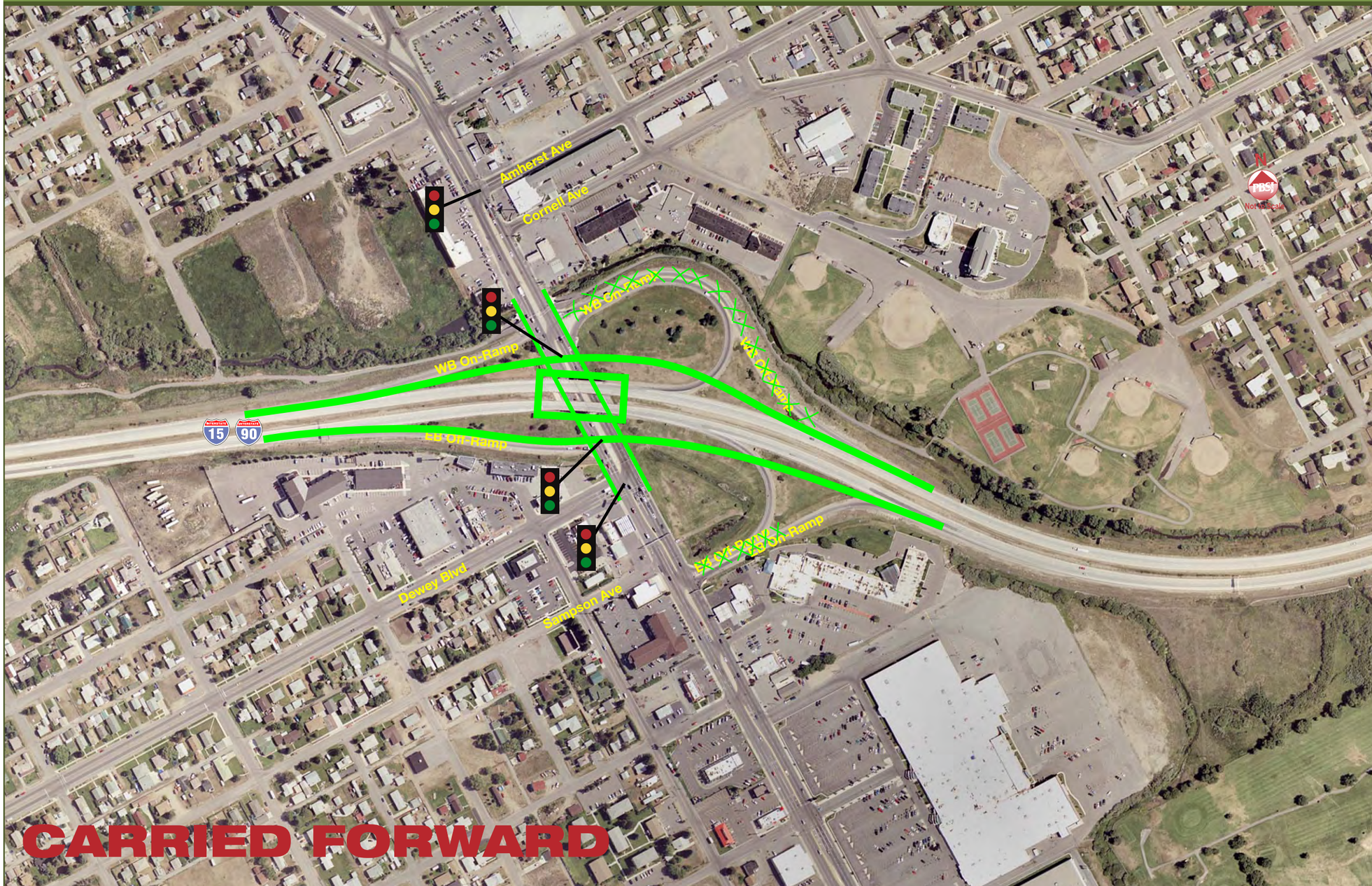
Pros:

- Consolidates ramp terminal intersections on Harrison Avenue to one
- Eliminates many of the access issues
- Corrects acceleration and deceleration lane deficiencies

Cons:

- High costs
- Will require raising interstate mainline
- Proximity to Dewey Boulevard still a problem

HARRISON AVE INTERCHANGE



Legend

Option 2

Remove in Option 2

Option 2

Reconfigure interchange to a Tight Diamond configuration. Replace bridges over Harrison Avenue and widen Harrison for side by side double left turn lanes. Move EB on/off-ramp terminal as far north as possible.

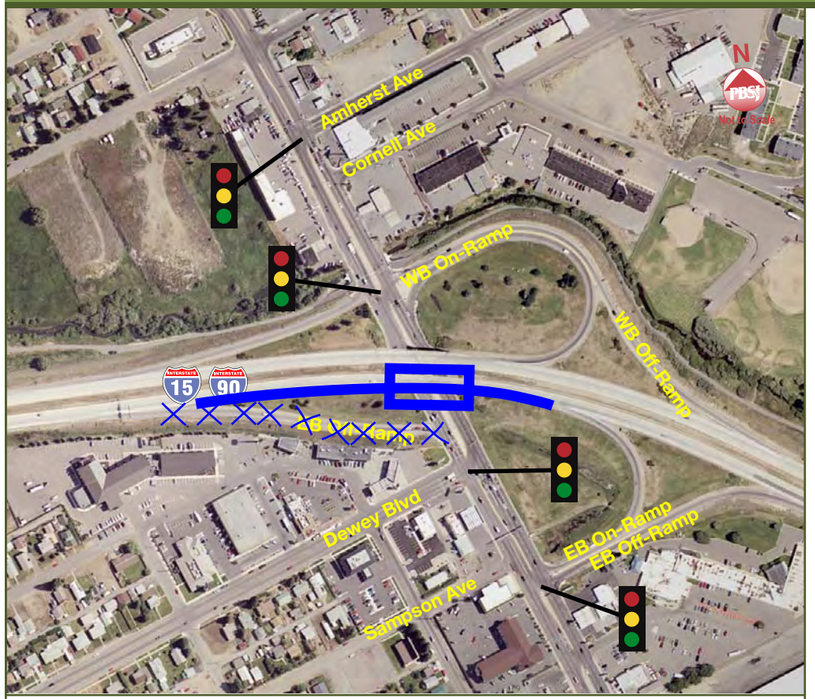
Pros:

- Consolidates ramp terminal intersections on Harrison Avenue
- Improves spacing with Dewey Boulevard

Cons:

- Adds additional traffic signal
- Will require raising interstate mainline
- EB on/off-ramp and Dewey Blvd traffic signals are closely spaced
- Partial Reconfigurations

HARRISON AVE INTERCHANGE



Legend
Option
Remove in Option

Option 3

Eliminate EB off-ramp to SB Harrison. Extend deceleration lane for EB off-ramp (loop) and add traffic signal at EB on/off-ramp.

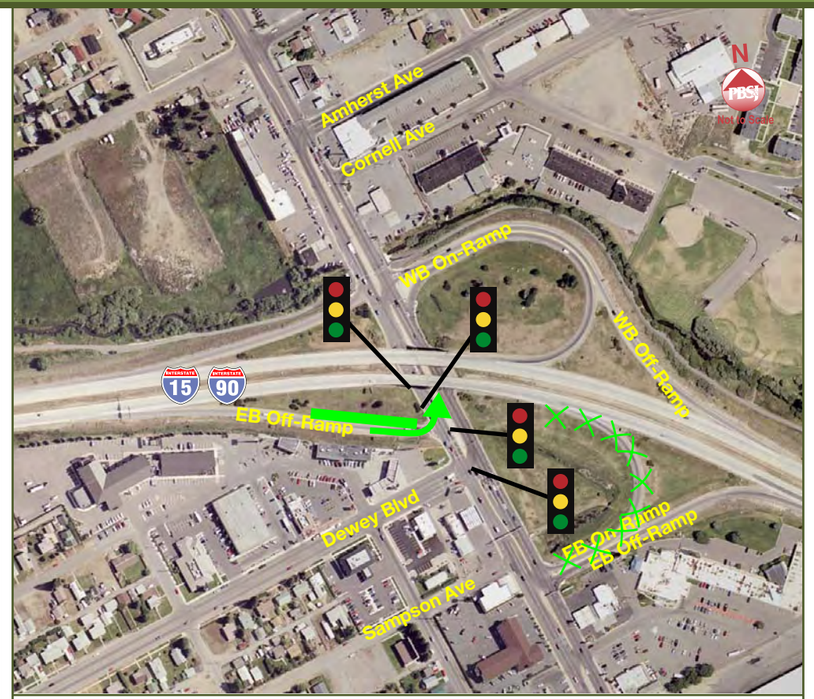
Pros:

- Eliminates ramp terminal spacing issues with Dewey Boulevard
- Corrects acceleration lane and ramp spacing issues

Cons:

- New signal on Harrison is spaced close to Dewey Boulevard signal
- Requires new or widened EB I-15/90 bridge over Harrison Avenue

CARRIED FORWARD



Legend
Option
Remove in Option

Option 4

Eliminate EB off-ramp (loop). Reconfigure the EB off-ramp (to SB Harrison) to add a left turn lane (to NB Harrison) and a traffic signal. Add advanced warning traffic signals underneath the overpass. Operate new signal and Dewey Boulevard together and stripe intersection so cars will not get caught between signals.

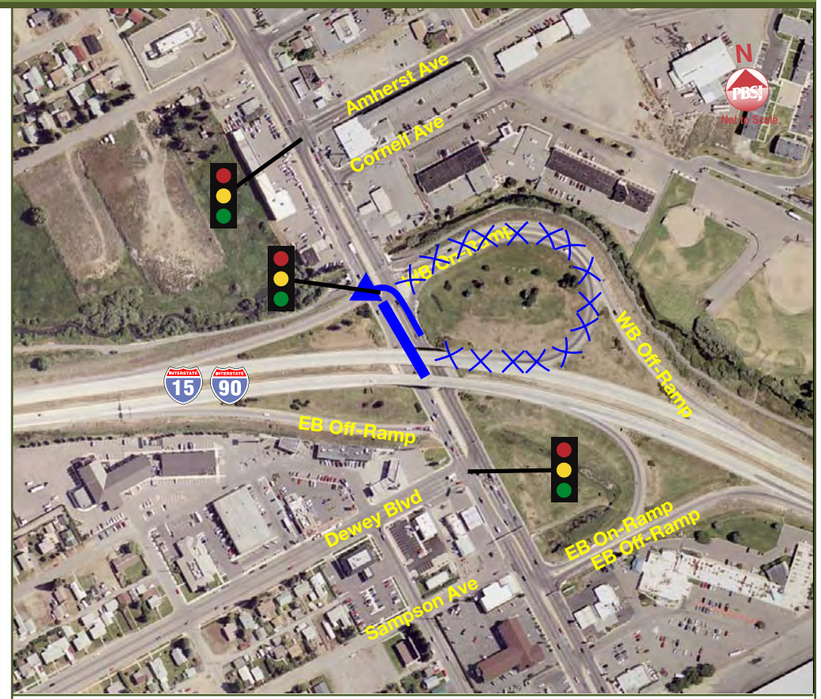
Pros:

- Eliminates tight EB loop ramp with an unsafe deceleration lane

Cons:

- Signal sight distance issues for SB Harrison Avenue
- Close spacing of signals may be confusing
- Does not improve intersection geometry for EB off-ramp to Dewey Boulevard

CARRIED FORWARD



Legend
Option
Remove in Option

Option 5

Eliminate WB on-ramp (loop) and add a left turn pocket on Harrison Avenue for a NB Harrison to WB on-ramp movement.

Pros:

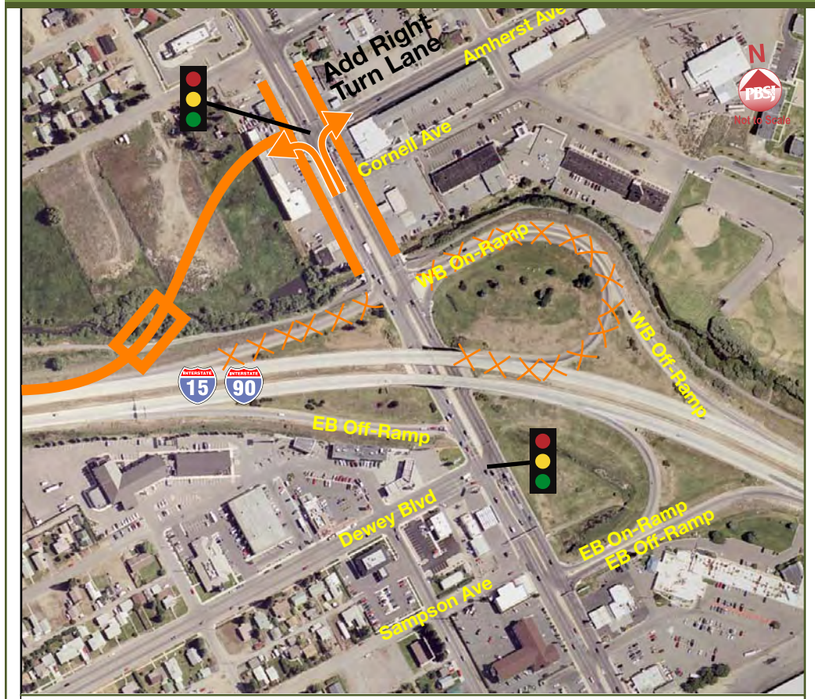
- Eliminates tight loop ramp with an unsafe acceleration length and merge for WB loop on-ramp

Cons:

- Requires additional traffic signal phase for WB ramp terminal signal

CARRIED FORWARD

HARRISON AVE INTERCHANGE



Legend
Option
Remove in Option

Option 6

Eliminate both WB on-ramps and build a new WB on-ramp to the north tying in at the Amherst intersection. Realign Harrison so that third NB through lane can be extended from Cornell to Amherst and the appropriate left turn lanes can be included.

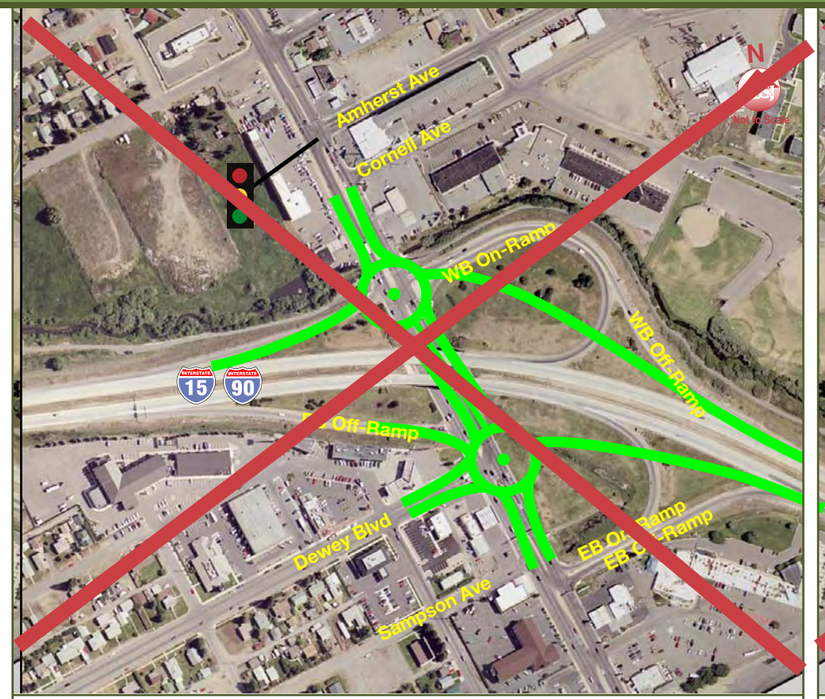
Pros:

- Eliminates tight loop ramp with an unsafe acceleration length and merge for WB loop on-ramp
- Improves Amherst and Harrison capacity and operation

Cons:

- Property acquisition required
- Potential environmental impacts (natural and social resources)

CARRIED FORWARD



Legend
Option

Option 7

Reconstruct interchange ramp terminals with roundabouts (double lane on Harrison and single from all ramps and Dewey Boulevard). Combine Dewey Boulevard with EB ramp terminal intersections.

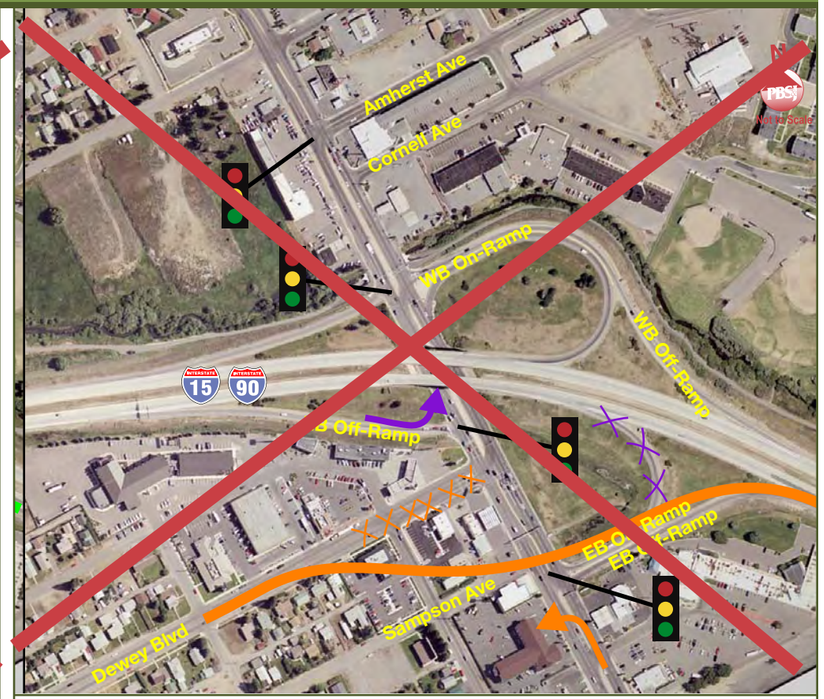
Pros:

- Eliminates ramp terminal spacing issues
- Reduces the number of traffic signals
- Eliminates tight loop ramp with an unsafe acceleration length for EB and WB loop ramps

Cons:

- Difficult roundabout configurations
- Requires moving the alignment through a large Harrison south of the EB ramps and Dewey Boulevard roundabout.
- Will require changes to Dewey Boulevard

INITIALLY CARRIED FORWARD - DROPPED DUE TO FEASIBLITY



Legend
Option
Remove in Option
Option
Remove in Option

Option 8

Eliminate EB off-ramp (loop) and realign Dewey Boulevard to align with the EB on-ramp and add a new traffic signal. Add a left turn lane at the remaining EB off-ramp and add a traffic signal.

Pros:

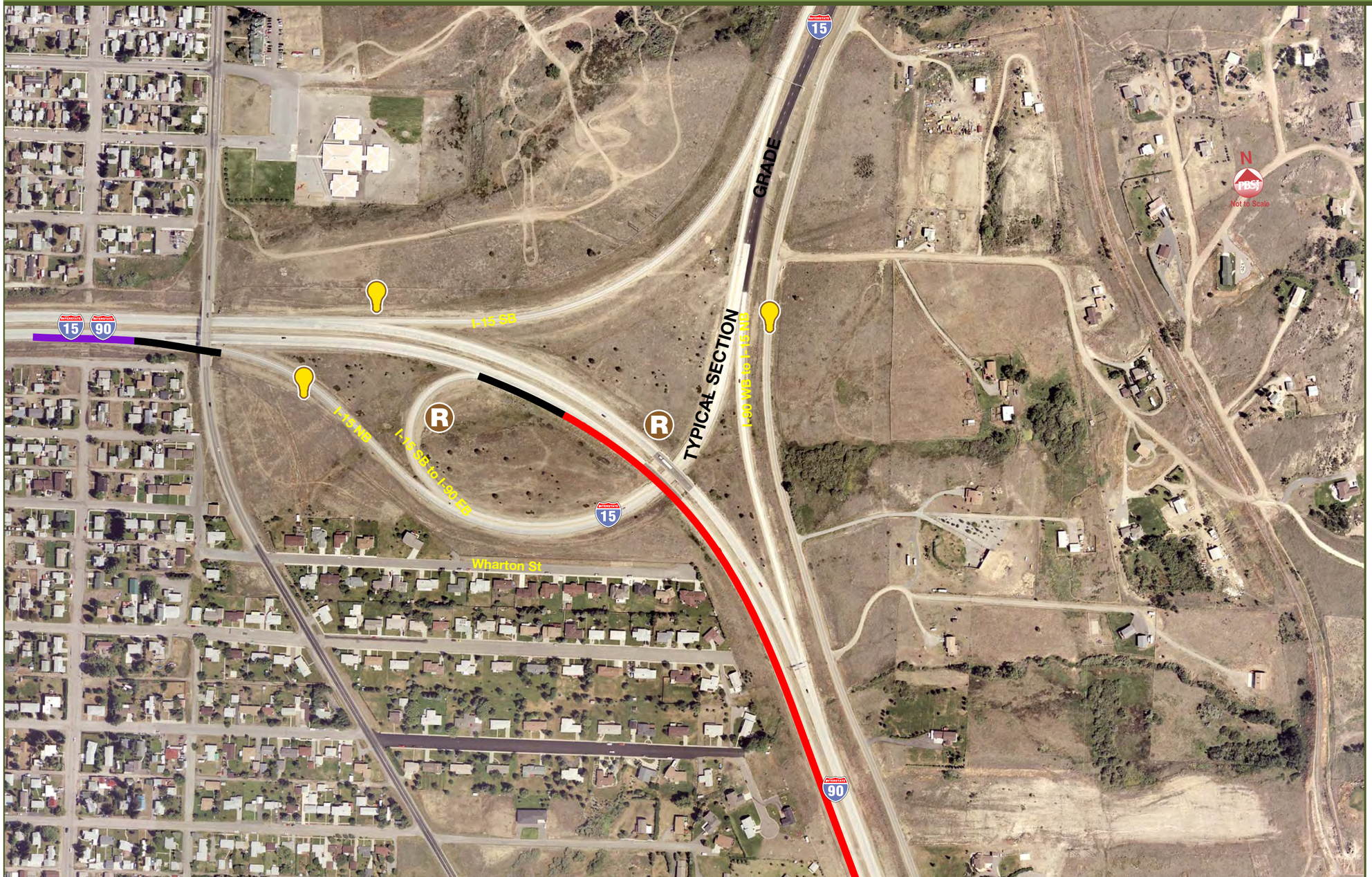
- Eliminates ramp terminal spacing issues
- Improves traffic signal spacing
- Eliminates tight loop ramp with an unsafe acceleration length and merge for WB loop on-ramp

Cons:

- Requires minor property acquisition and relocations
- Traffic Signals at EB off-ramp may be difficult to see

DROPPED

EAST BUTTE INTERCHANGE



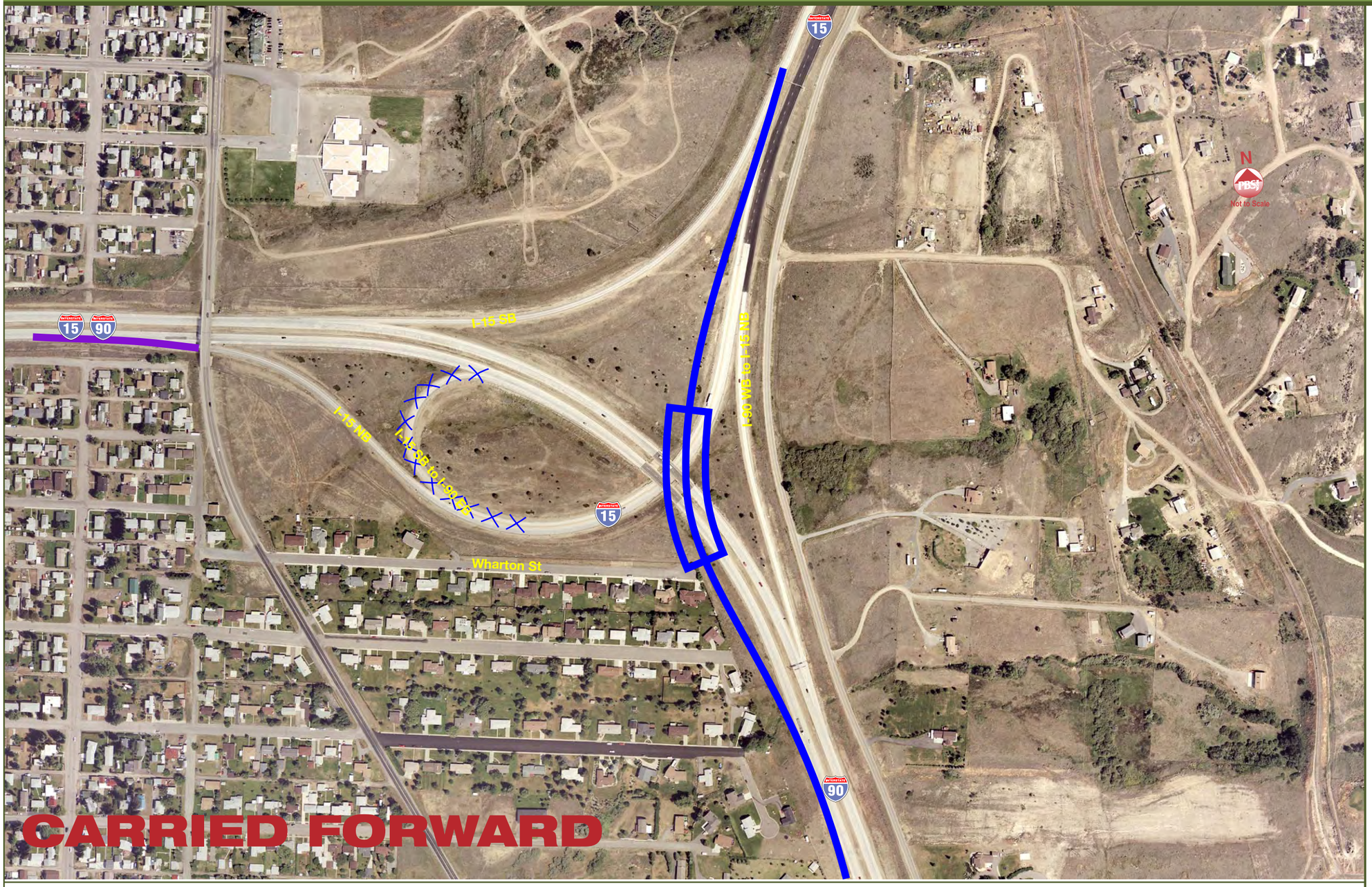
Legend

- Deficient Radius
- Poor Lighting
- Deficient Acceleration Lane (Existing)
- Acceleration Lane (Required)
- Deficient Acceleration Lane (Existing)
- Acceleration Lane (Required)

Deficiencies

- Ramp Geometry (Tight Curves)
- Deficient Deceleration Length (EB off to NB I-15)
- Deficient Acceleration Length (SB I-15 to EB on)
- Poor Lighting
- Steep Grade on I-15

EAST BUTTE INTERCHANGE



Legend

Option 1

Extend Deceleration Lane

Remove in Option 1

Option 1

Eliminate tight SB I-15 to EB on-ramp loop ramp and build a new flyover ramp that bridges the EB to NB ramp and the mainline.

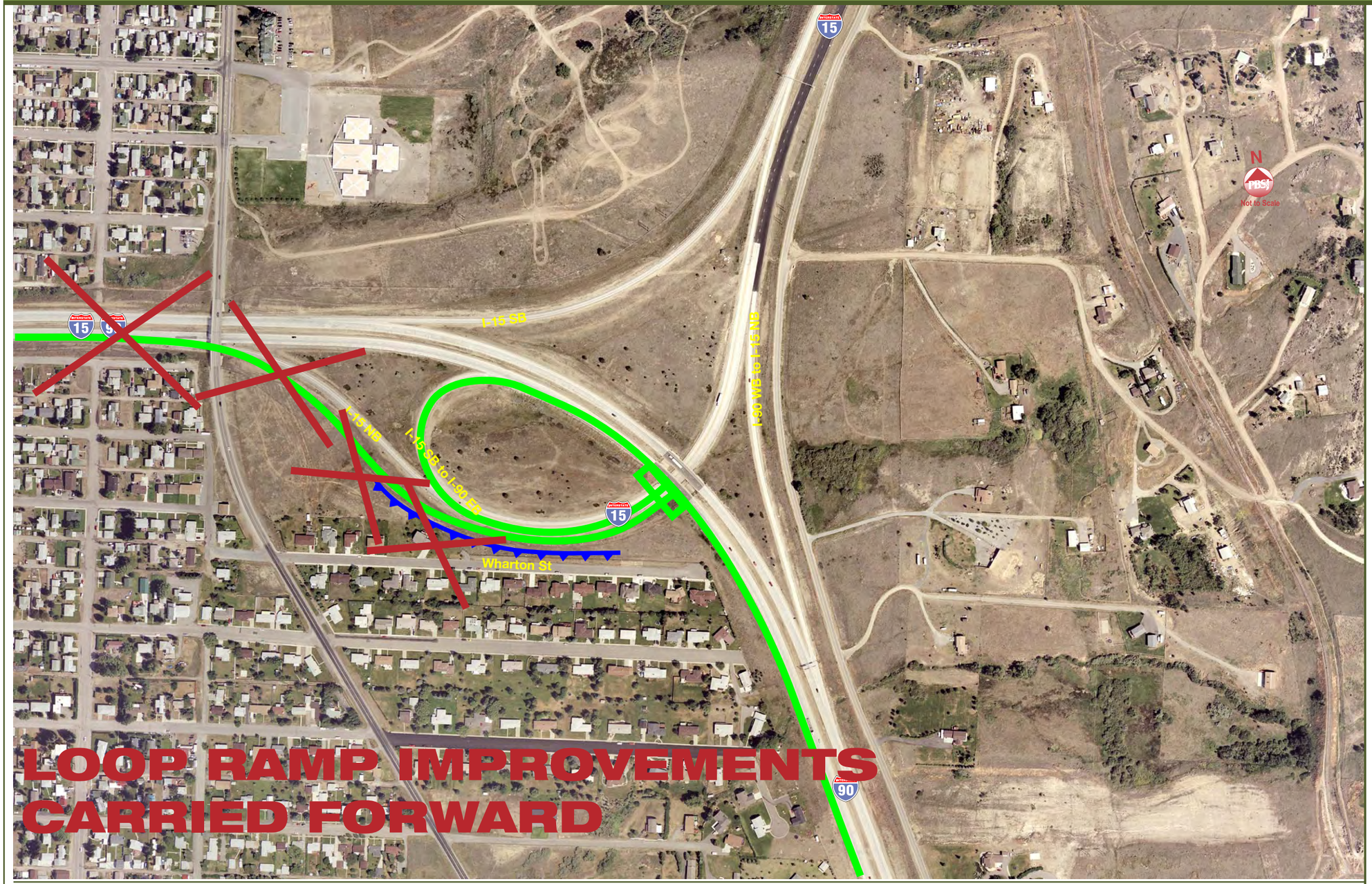
Pros:

- Eliminates tight loop ramp with an unsafe acceleration length and merge for WB loop on-ramp
- Provides a higher design speed for SB to EB ramp

Cons:

- High cost vs. low traffic volumes
- Long bridge on downhill grade will ice up in winter
- Will probably require property acquisitions and relocations

EAST BUTTE INTERCHANGE



Legend

Option 2

Retaining/Noise Wall

Option 2

Modify loop ramp configuration by realigning the EB to NB ramp so that there is more room for the loop ramp. Realign loop ramp to the maximum design speed within the available area and provide the appropriate acceleration length (widen mainline EB bridge).

Pros:

- Improves loop ramp
- Provides adequate acceleration length

Cons:

- Does not improve the design speed of the SB to EB ramps
- Will require walls and potential noise walls

CONTINENTAL INTERCHANGE

Legend

Intersection Deficiencies

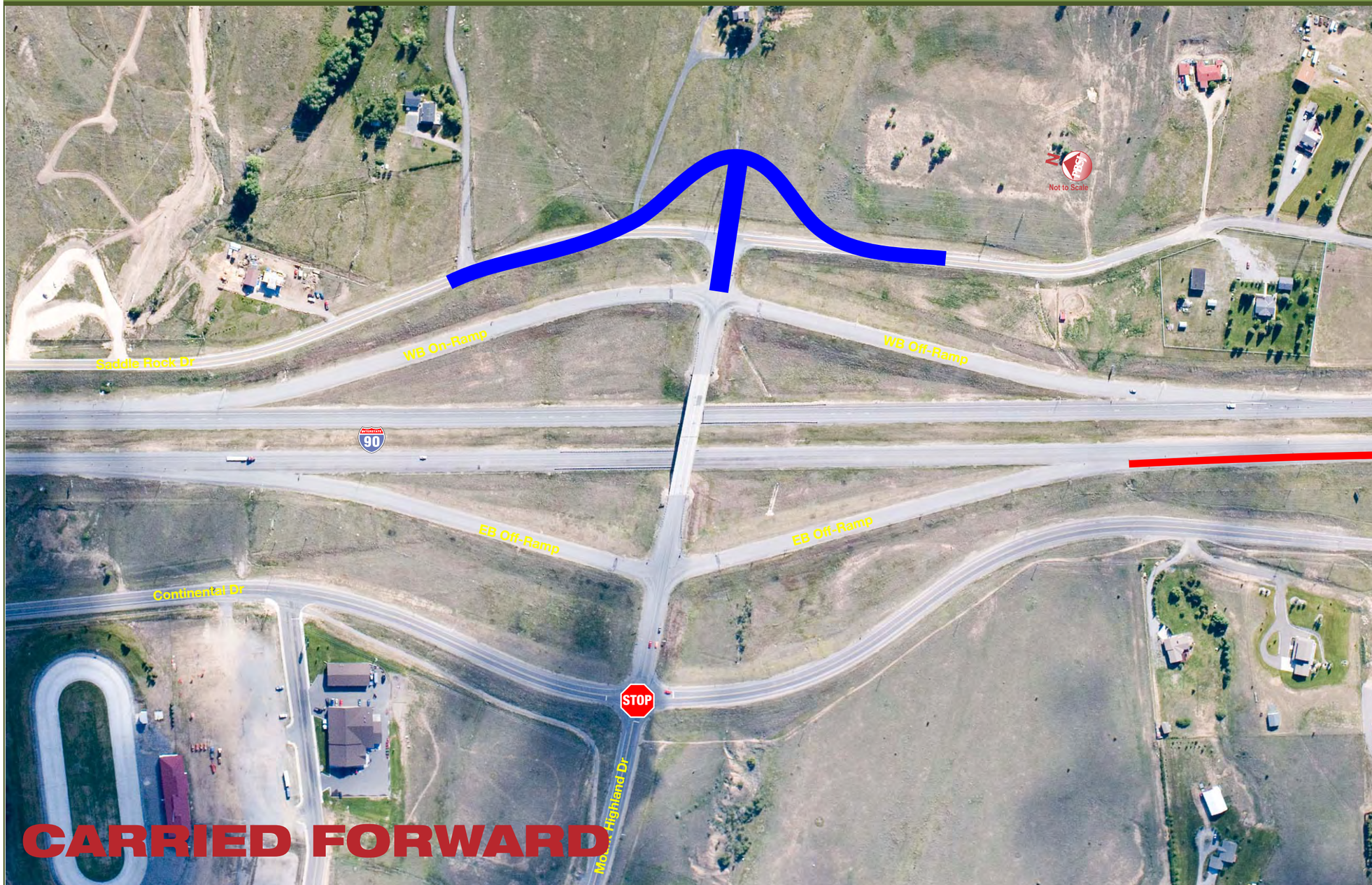
Deficient Acceleration Lane (Existing)

Acceleration Lane (Required)

Deficiencies

- Deficient Acceleration Length (EB on-ramp)
- Intersection Spacing
- Intersection Geometry (radiuses, turning movements)
- Intersection Sight Distance

CONTINENTAL INTERCHANGE



Legend

Option 1

Extend Acceleration Lane

Option 1

Realign east side frontage road to the east to provide adequate spacing between ramp terminal intersection and frontage road. Extend the EB on-ramp acceleration lane (common for all alternatives)

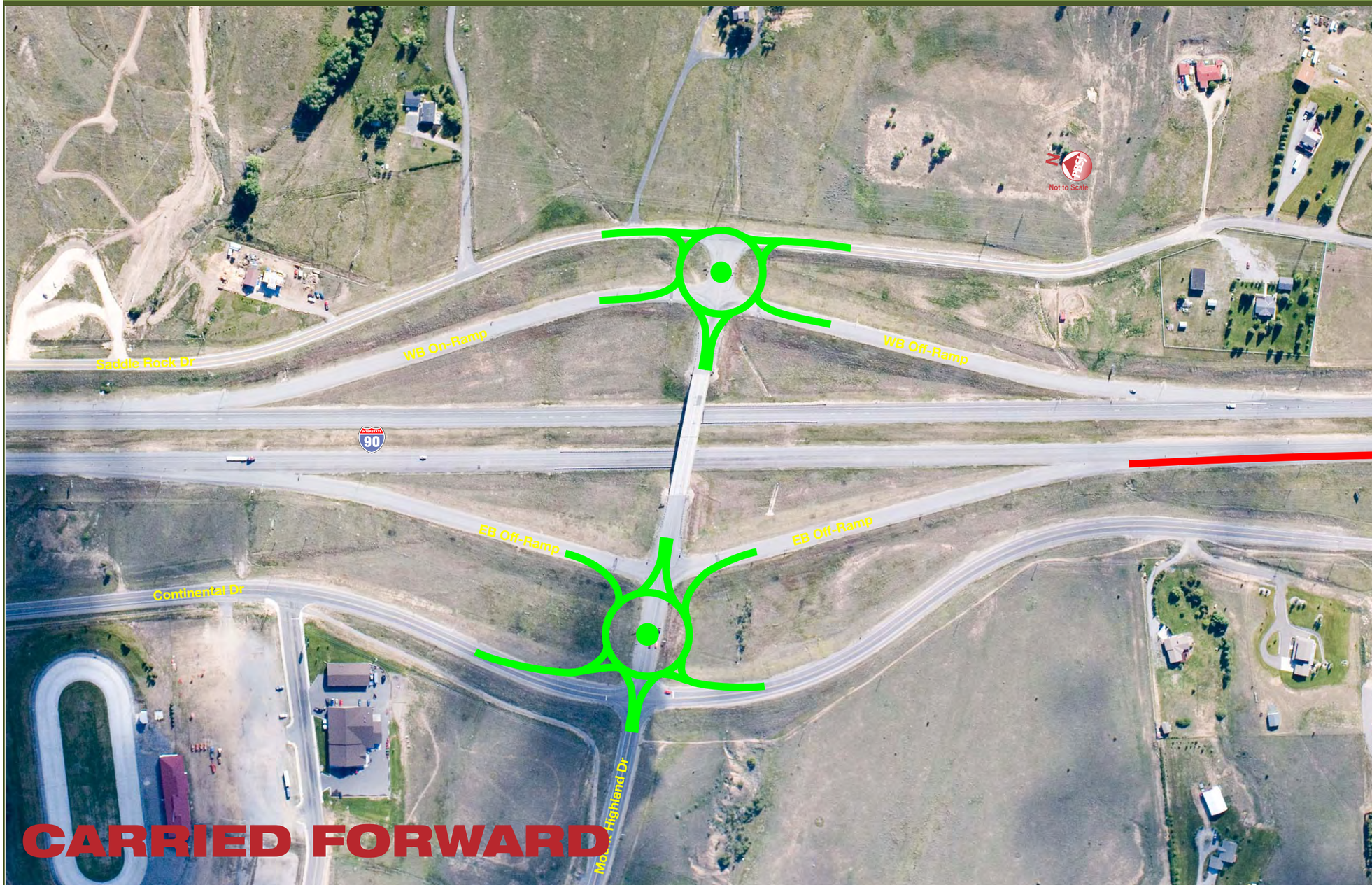
Pros:

- Eliminates intersection spacing and geometry issues
- Solves most deficiencies

Cons:

- Does not address ramp terminal intersection sight distance issues

CONTINENTAL INTERCHANGE



Legend
Option 2
Extend Acceleration Lane

Option 2

Description: Combine frontage road and ramp terminal intersections into one single lane roundabout on each side of the interstate.

Pros:

- Eliminates intersection spacing issue
- Can prolong the life of the two lane bridge as traffic volumes increase in the area (eliminates need for left turn lanes)
- May improve safety of Continental and Mount Highland intersection

Cons: