

Haines Avenue & Knollwood Drive Traffic Safety Study

15 January 2013

Engineering Services Division

Public Works Dept.

Location Map

N
W — O — E
S
1 inch = 200 feet



Background

- I-90 interchange planning considered median island.
- Intersection reviewed in South Dakota Dept. of Transportation's 2010 Roadway Safety Improvement Report
- Intersection identified as concern in the Rapid City Arterial Street Safety Study (FHU, March 2012)

Background

- Intersection identified as concern in the Rapid City Intersection Crash Report 2009 – 2011 (Staff, May 2012)
- Signal operation would be poor due to short spacing between I-90

Crash History

YEAR	TOTAL CRASHES	# OF WB ANGLE CRASHES	# OF EB ANGLE CRASHES	% OF ANGLE CRASHES
2006	5	1	1	40%
2007	6	1	3	67%
2008	7	4	1	71%
2009	6	4	0	67%
2010	10	5	2	70%
2011	6	3	1	67%

Mitigation Options

1. Do Nothing
2. Left Turn Prohibition Signing
3. Modify Approach Geometrics
4. Prohibit Left Turns / Construct Alternate Route

Do Nothing

- No cost
- Does not address crash pattern
 - Injury potential
 - Economic costs

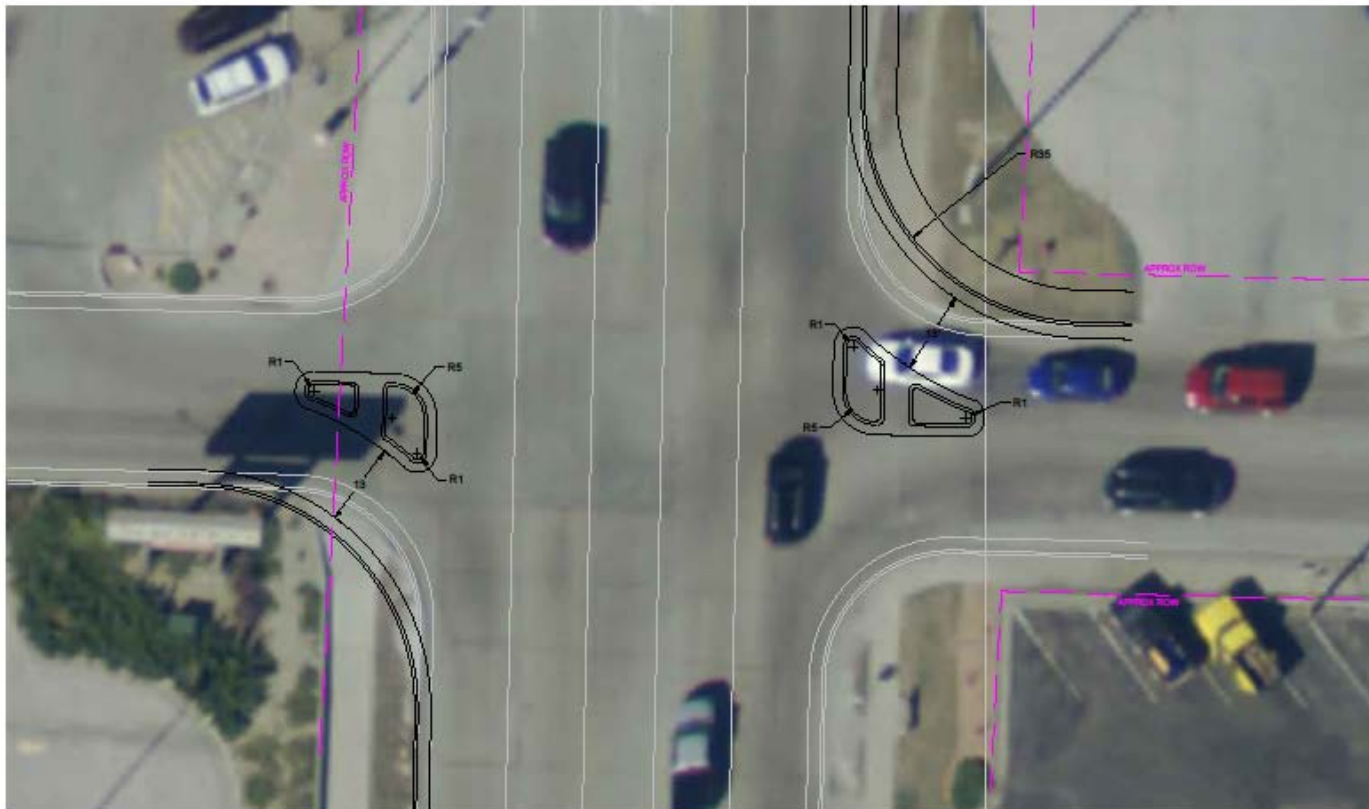
Left Turn Prohibition Signing



- Easy implementation
- Low cost
- Low compliance

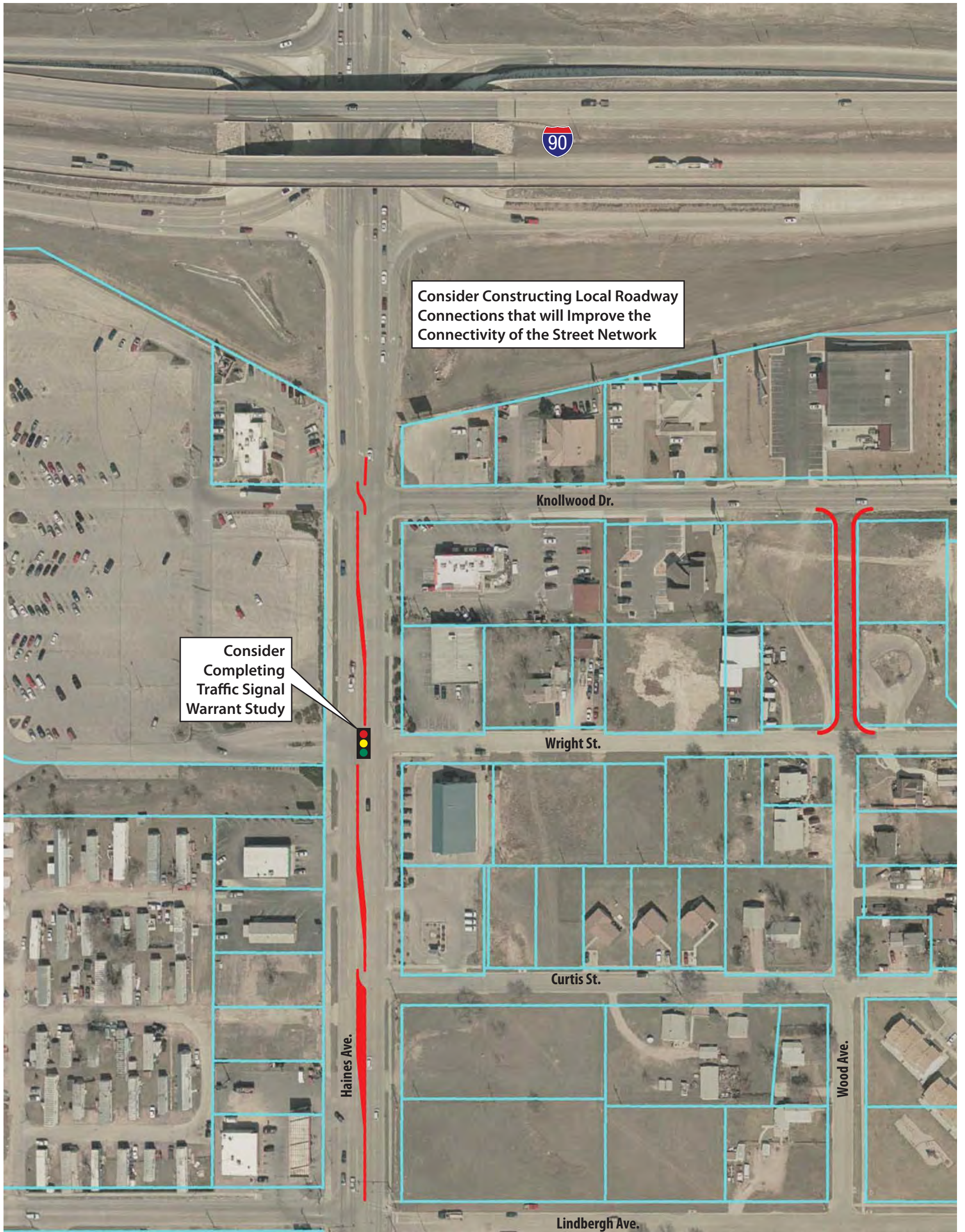
Modify Approach Geometrics

(estimated cost = \$70,000)



Provide Alternate Route

(estimated cost of full build = \$1.6 million,
estimated cost of Wood Ave. connection & approach
islands = \$190,000)



Consider Constructing Local Roadway Connections that will Improve the Connectivity of the Street Network

Consider Completing Traffic Signal Warrant Study



NORTH