
IECI TECHNICAL REPORT

APPENDIX E

**Methodology for Evaluation of
Interchange Area Development Potential**

Circ-Williston EIS

Interchange-Specific Development Potential Analysis

A qualitative assessment was made on an interchange-specific basis of attributes that tend to favor development in the immediate vicinity of interchanges. The focus of the analysis was on commercial and industrial development as this type of development tends to abut interchanges if other attributes are present.

For each interchange, a low, medium, or high score was assigned to each attribute based on the relative indication of favorability to development potential. A low score was used if the attribute was not present or sparsely present, while a high score was used if the attribute was clearly present.

The attributes examined, and the corresponding rationale for rank scoring, include the following:

- *Level of existing development* – Existing commercial/industrial development near the proposed interchange indicates that factors favorable to development are already present and would likely be complemented by the accessibility that the interchange would bring. A low score indicates no or a lone existing commercial/industrial development, a medium score indicates several individual commercial/industrial developments, and a high score indicates a cluster of commercial/industrial developments.
- *Traffic volumes on intersecting roadways* – Pass-by traffic volumes are often used by businesses as a basis for locating retail and office establishments since these establishments want to be where potential customers are. Characterizations of highway-oriented business potential were developed from an examination of literature on highway-oriented business trip characteristics; including:

Highway Oriented Business Trip Characteristics

Business Type	Convenience Trips (%)	Trips per Store (Daily Avg)
Hotels	20	126
Specialty Stores	20	3120
Services	30	1560
Supermarkets	40	2898
Durable Goods	40	696
Restaurants	50	2130
General Merchandise	65	1660
Convenience Stores	95	1774
Gas Stations	95	748

Source: Glen Weisbrod, and Roanne Neuwirth, NCHRP Research Results Digest 231, Economic Effects of Restricting Left Turns, August 1998.

- *Accessibility to properties fronting intersecting roadways* – The ability to access a property fronting an intersecting road directly from that road indicates development potential for many commercial uses. A low score was used for intersecting roads that are limited-access facilities, e.g., interstate highways, and access to properties in the vicinity is extremely indirect. A medium score was applied to intersecting roads that are limited-access facilities but where access to the properties in the vicinity of the interchange is moderately indirect. A high score was used for intersecting roads having little or no access limitations to fronting properties.
- *Location of the interchange with respect to existing commercial activity centers* – Over time, development tends to occur along distinct paths from a concentrated core (activity node). Similar establishments often appear in clusters so as to create an identifiable destination for consumers. Meanwhile, establishments that supply or service these clusters tend to locate nearby. A low score for this attribute was given if the interchange is not located within one mile of an activity center or within the apparent path of recent development. A medium score was given if the interchange would be located nearby and within the apparent path of urbanization. A high score was given if the interchange would be either within a recently developed commercial activity center or between and within one mile of two recently developing activity centers.
- *Available/planned water and sewer service* – Public water and sewer is needed to support higher densities of commercial development, as well as industrial development. A low score was given if the interchange would not be within an area served or planned to be served by water and sewer. A medium score was given if the interchange would be within an area served by water or sewer but not both. A high score was given if the interchange would be in an area served by both water and sewer.
- *Zoning/planning* – Zoning is a tool used by local municipalities to guide the location of development, the type of development, and the scale of development. Zoning ordinances are typically based on a comprehensive planning process which is often periodically updated. A low score was assigned to those interchanges that would be in areas not zoned for commercial or industrial development and not planned for growth based local comprehensive planning. A medium score was given to areas with a moderate amount of commercially or industrially zoned property in the vicinity of a proposed interchange. A high score was assigned to those interchanges with a high density of commercially and/or industrially zoned land nearby.
- *Available land* – Even if all the other attributes are in place, development will be limited whether or not an interchange is constructed if developable land (generally vacant land of suitable topography and size) is not available in the vicinity of the interchange. A low score was assigned if there would be a lack of developable land in the vicinity of the interchange. A medium score was assigned if there is a moderate amount of developable land in the vicinity of the interchange. A high score was assigned if there is a large amount of available land in the vicinity of the interchange.

A composite score of overall development potential was tallied for interchange based on the individual attribute scores. A low score was assigned if the individual attribute scores were predominantly low. A medium score was assigned if the individual attribute scores were predominantly moderate or if there was a general mix of scores. A high score was assigned if the individual attribute scores were predominantly high.

Assessment was based on GIS data sources outlining development capacity by parcel, zoning, and other features.

GIS Data Sources Used in Analysis of Interchange Level Development Potential

Use	Data File	Source
2005 Zoning Boundaries	Zoning122005.shp	Supplied by CCRPC via FTP posting January 2006
2005 Zoning Parameters	ZoningTable2005_update.xls	Supplied by CCRPC via FTP posting January 2006
2005 Sewer Service Area	ssa05.shp	Supplied by CCRPC via e-mail March 2006
2005 Conserved Lands	conspir04.shp	Supplied by CCRPC via FTP posting January 2006
2005 Open Space	OpenSpace041603.shp	Supplied by CCRPC via e-mail March 2006
Essex/Essex Junction Parcels	Essex_Parcels04.shp	Supplied by CCRPC via e-mail March 2007
RBA Buildout Assumptions	BuildoutSoils02.shp	Supplied by CCRPC, July 2005
Williston Buildout Analysis	WillistonBuildoutmod.mdb	Supplied by CCRPC, November 2005
Williston Buildout Shapefiles	Commercial0905.shp; ExistingResDevelopment.shp	Supplied by CCRPC, November 2006