

Draft Level 2 Alternatives Analysis Report
Task 5.3.5

Appendix C
National I-69 Performance Indicators

Introduction

Key to the evaluation of the route concepts is the development of objective performance measures. These performance measures serve as “yardsticks” for assessing the degree to which an alternative achieves an intended goal. They also permit an objective method for comparing the relative performance of the alternatives.

The performance measures for this project were first documented in the draft Purpose and Need Statement. Each performance measure relates to a specific need and associated goal. The performance measures are numerous and varied in order to ensure that the alternatives analysis and the subsequent screening process is not overly dependent on a small number of factors.

Each performance measure is grouped into one of ten “families” of similar factors and each family relates to a specific need and goal/policy for I-69. This Appendix, Appendix C gives detailed information about the two families of National I-69 Performance Indicators.

Since most of the factors measure different transportation or economic variables, they are often quantified in different units of measurement. For example, proximity measures are tabulations of the population within a specified number of minutes from a city or some other important destination(s). In this case, the unit of measurement is people. On the other hand, safety data are measured by the number of vehicular crashes and business cost savings is measured in dollars. To add to the confusion, in some cases more is better; in some cases, less is better. For example, a route concept that provides a shorter travel time between Evansville and Indianapolis is better (at least on that performance measure) than one with a longer travel time. By contrast, a route concept that can be expected to stimulate more jobs is better than one that would stimulate fewer.

In order to simplify the analysis and reduce these potential sources of confusion, all performance measures have been converted from their original unit of measure to a value that has been scaled between 0 and 100. Moreover, all performance measures in which less is better have been inverted and scaled on the same 0 – 100 yardstick. In other words, the alternative with the poorest score is always indexed to 0 and the alternative with the best score is always indexed to 100. The adoption of this scoring practice allows for simple comparisons between totally different types of measures. It also provides more information than simply ranking the alternatives.

Another analytical practice has been to compute an *average composite score* for each *family* of performance measures. This practice has simplified the analytical process; now, we only have to look at 10 sets of scores rather than 40. Moreover, this practice has reduced the possibility that performance measures that tend to measure the same thing are double-counted.

The main text of *Task Report 5.3.5, Draft Level 2 Alternatives Analysis Report*, contains the average composite scores for each family. Appendices A - C give the raw values of the individual performance measures, along with their respective scaled scores.

National I-69 Performance Measures

1. Interstate and International Trade

The United States Congress has designated I-69 from Canada to Mexico as a “high priority corridor” on the National Highway System. Based on that designation, the Federal Highway Administration (FHWA) has established as a matter of national policy that the I-69 Corridor should serve to promote interstate and international trade. Since Indiana’s section of I-69 is part of this larger national and international corridor, the promotion of this federal policy has been adopted as a *core goal*.

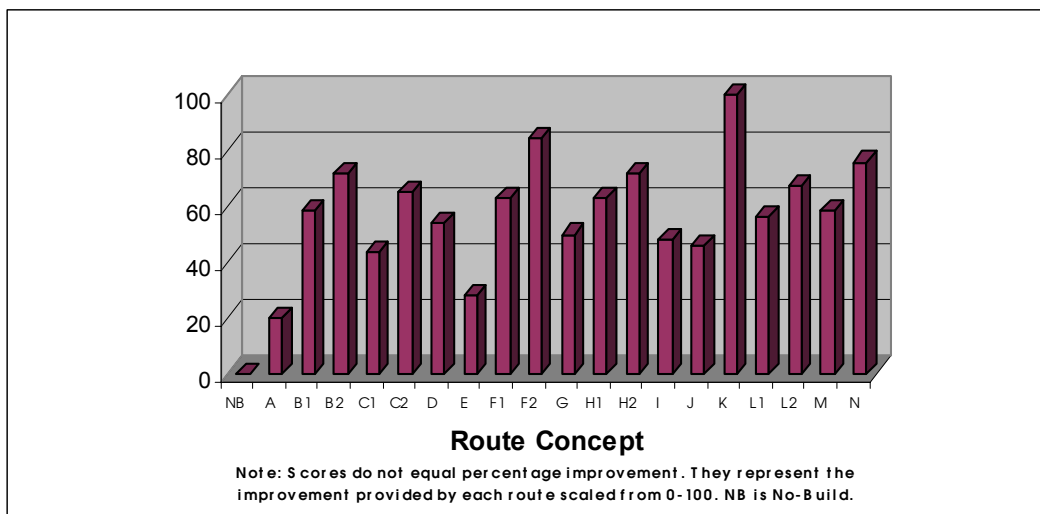
Two performance measures have been used for this analysis: design compatibility and facilitation of truck traffic. Design compatibility refers to the termini of the alternative and its design standards. Since all of the alternatives have their termini at Indianapolis and Evansville, they all satisfy this criterion. Similarly, all of the alternatives are highway route concepts that would be designed to Interstate standards.

The variable that has been used to measure the potential to facilitate national and international trade is daily truck vehicle-hours saved in the Year 2025. Table and Figure C1 show the performance of each alternative with respect to this measure of trucking efficiency.

Table C1 - Daily Truck Vehicle-Hours Saved in 2025 by Alternative Route Concept

Alternative	Daily Truck-Hours Saved	Scaled Daily Truck-Hours Saved Scores	Rank
NB	0	0.00	20
A	900	19.57	19
B1	2,700	58.70	10
B2	3,300	71.74	4
C1	2,000	43.48	17
C2	3,000	65.22	7
D	2,500	54.35	13
E	1,300	28.26	18
F1	2,900	63.04	8
F2	3,900	84.78	2
G	2,300	50.00	14
H1	2,900	63.04	8
H2	3,300	71.74	4
I	2,200	47.83	15
J	2,100	45.65	16
K	4,600	100.00	1
L1	2,600	56.52	12
L2	3,100	67.39	6
M	2,700	58.70	10
N	3,500	76.09	3

Figure C1 - Scaled Daily Truck Vehicle-Hours Saved in 2025 by Alternative Route Concept



2. Intermodal Connectivity

The National I-69 project emphasizes improved intermodal connections. The final measure of effectiveness has to do with the potential for the proposed alternatives to serve major intermodal facilities. This measure was quantified by developing an accessibility index to the five major intermodal facilities within 100 miles of the I-69 Study Area. These include the CSX Avon Yard in Indianapolis; the CSX Evansville Yard; The Southwind Maritime Centre in Mt. Vernon, Indiana; Port Clark in New Albany, Indiana; and Indianapolis International Airport.

An intermodal accessibility index was calculated for both the No Build case and for each Route Concept. See *Task Report 3.3.4, Regional Transportation Needs Analysis*, for further information about accessibility indices. For this intermodal accessibility index, the attractiveness factor is the annual (year 2000) gross intermodal tonnage served by each facility. Travel times were based upon Year 2025 assignments. Since this is a National I-69 goal, the accessibility indices were calculated for the entire modeled area.

Table and Figure C2 show the performance of each alternative with respect to this indicator.

Table C2 - Regional Intermodal Accessibility Scores

Alternative	Intermodal Accessibility Score	Scaled Scores	Rank
NB	420,315,059	0.00	20
A	422,031,722	34.96	18
B1	424,161,712	78.33	6
B2	423,535,375	65.58	13
C1	424,278,336	80.71	5
C2	423,990,848	74.85	10
D	422,584,566	46.22	16
E	423,132,914	57.38	15
F1	425,225,607	100.00	1
F2	424,590,950	87.08	3
G	423,847,964	71.95	11
H1	424,820,300	91.75	2
H2	424,148,554	78.07	7
I	423,843,446	71.85	12
J	424,417,231	83.54	4
K	424,107,416	77.23	8
L1	424,014,526	75.34	9
L2	423,415,259	63.13	14
M	421,995,135	34.21	19
N	422,282,010	40.06	17

Figure C2 - Scaled Intermodal Accessibility Scores

