

**IDENTIFYING INDIANA'S PORTION OF THE NATIONAL HIGHWAY SYSTEM**

**Gunnar J. Rorbakken  
Division Chief, Division of Transportation Planning  
Indiana Department of Transportation**

The 1991 Intermodal Surface Transportation Efficiency Act (ISTEA) establishes the National Highway System (NHS) consisting of 155,000 miles (plus or minus 15 percent) of major roads in the United States. Included will be all Interstate routes, a large percentage of urban and rural principal arterials, the defense strategic highway network, and strategic highway connectors. The Secretary of Transportation will propose the system based on submittals by the individual states, and the law requires the NHS be designated by September 30, 1995.

### **Legislative Overview**

Development of the underlying philosophy of the 1991 Intermodal Surface Transportation Efficiency Act was a combined, multi-year effort of the American Association of State Highway and Transportation Officials (AASHTO), the FHWA, the National Association of Regional Councils, and various special interest groups, such as the trucking industry. This effort, initiated in 1988 under guidance of AASHTO, was known as Transportation 2020. It was designed to create a consensus on transportation policy and influence the upcoming highway reauthorization legislation. A major thrust of this consensus building process was to formulate new national transportation goals for the post Interstate construction era. Identification of a national goal to define a transportation system of national significance and focus federal resources on development of that system resulted from this process. Once this system is defined state and

local governments will assume more responsibility in managing the rest of the system. Emphasis will be placed on shifting from categorical grants and rigid standards to more flexible programs. These can better reflect the priority of state and local government in the development of a second level system. Uniform design standards and specific funds for development of the NHS will follow.

To better define a transportation system of national significance, FHWA initiated a voluntary planning exercise to review the nation's principal arterial system and identify a preliminary Highway System of National Significance. This process consisted of two parts: (1) states were asked to review and revise their principal arterial systems to better meet guidelines of a system with four percent rural mileage and ten percent urban mileage, and

(2) portions of this principal arterial system and routes anticipated to be included in the principal arterial system carrying no more than 42 percent of the state's traffic (measured by vehicle miles of travel) were identified.

As a result of this planning exercise, regional differences in the various states' approaches to developing their portions of the proposed Highway System of National Significance were identified. In 1989 these regional differences reached a sufficient level for FHWA to abandon the voluntary planning exercise. However, work on defining a national highway system was reinstated by FHWA in 1990 as a result of a congressional mandate.

To assist with its deliberations on the upcoming highway reauthorization legislation, the U.S. House Committee on Public Works mandated FHWA to develop an "illustrative" National Highway System. To satisfy this mandate FHWA allowed states wide latitude in development of their respective NHS systems. Three levels of systems were requested. The first carrying 40 percent of the state's travel, a second carrying 35 percent of the state's travel, and a third optional system was left to

the individual states to develop under their own criteria. In December 1990, FHWA completed development of this illustrative 150,000 mile National Highway System.

### Indiana's NHS Submittal

The system mileage and vehicle miles of travel for these three alternatives is presented below, in **Table 1** with the optional network reflecting the revisions made in response to FHWA's review.

**TABLE 1**

INDIANA NHS MILEAGE SUMMARY

ALTERNATIVE	RURAL			URBAN			TOTAL		
	MILES	VMT	PERCENT	MILES	VMT	PERCENT	MILES	VMT	PERCENT
35%	2,632	31,654,549	39.3%	648	19,218,677	28.9%	3,280	50,873,226	34.6%
40%	2,992	34,227,655	42.5%	757	21,374,210	32.1%	3,749	55,601,865	37.8%
OPTIONAL	1,973	27,942,564	34.7%	537	17,674,195	26.5%	2,510	45,616,759	31.0%
TOTAL SYSTEM VMT		80,522,000	100.0%		66,593,000	100.0%		147,115,000	100.0%

The Indiana NHS development process was based upon identification of major population centers, proposed new routes, port facilities, military installations, and the Strategic Highway Corridor Network (STRAHNET). Starting with results of the principal arterial system review, successive overlays were developed which added or subtracted mileage necessary to meet the established federal targets. The Department reviewed the rural portions of the system and obtained input from the state's Metropolitan Planning

Organizations (MPOs) on the system's urban portion. A preliminary urban route identification was provided to the MPOs and they were invited to recommend revisions. The Department then reviewed the recommendations to include only routes of national significance and avoid "stub" routes. The resulting urban routes were then identified for each VMT level. In recognition of the high design standards anticipated for designated NHS routes, the Department adopted a conservative approach for development of the optional system. Based upon interdivisional

review, the optional system contained only those routes judged to be highly significant to national objectives. The FHWA reviewed Indiana's initial NHS submittal and made minor changes to connect the systems of neighboring states and provide access to all communities with 10,000 or more residents. This revised "optional" system was then used by FHWA to identify Indiana's portion of the 150,000 NHS as submitted to the House Committee on Public Works. As required by the new 1991 transportation legislation, the revised initial system will serve as the starting point for refining the NHS.

## **IDENTIFICATION OF COMMERCE CORRIDORS**

When the Indiana Department of Transportation started development of its multimodal system document, it was decided that the first step in developing the highway portion would be to define an upper end system of highways that will best support Indiana's economy.

In chapter two we identified the 28 counties that constitute the state's primary counties in terms of economic activities. The 28 primary counties served as the starting points when travel corridors were identified. Consistent with the focus of supporting the state's economy, the commerce corridors were selected with the objective of providing an interconnected network of high quality highways linking the primary counties within Indiana, and connecting these counties with major markets in

surrounding states. The principles used to guide corridor selection were as follows:

- 1) Link Indiana's major population centers to the national highway network;
- 2) Provide good accessibility to Indiana's major manufacturing centers;
- 3) Provide good accessibility to Indiana's major trade and service centers; and

The major external markets for Indiana were considered to be urban areas over 600,000 in population and less than 500 miles from the state. Based on these criteria Indiana's major external markets are: Chicago IL, Louisville KY, Cincinnati OH, Milwaukee WI, Cleveland OH, Columbus OH, Dayton OH, Toledo OH, Nashville TN, Memphis TN, St. Louis MO and Detroit MI.

Access to the Indiana ports at Burns Harbor (Porter County), Southwind Maritime Centre (Posey County), and Clark Maritime Centre (Clark County) have all been included in defining the transportation corridors. These sites provide Indiana with access to international markets.

## **SELECTION OF COMMERCE ROUTES**

Once the commerce corridors were selected, the next step in

development of the Commerce Corridors network was the selection of routes that would serve these corridors.

The principles used in the route selection process were as follows:

- 1) to include all of the interstate system into Indiana's highway network,
- 2) to avoid duplication of current interstate and other major routes,
- 3) to provide connectivity and continuity of the overall system, and
- 4) to make use of high quality existing routes where appropriate.

In addition to these principles, access to important intermodal sites, such as the previously mentioned ports, was considered. The network resulting from this process consists of 2,393 miles of Interstate and other major routes, which provide extensive geographical coverage and serve the high traffic volume corridors.

The amount of traffic on the Commerce Corridors network has also been considered. Detailed information on the amount of traffic by segment was available for each route. The 2,393 mile Commerce Corridors network represents only three percent of the total miles of roads and streets in Indiana, yet it handles over 30 percent of the total vehicle miles traveled.

TABLE 2

## COMMERCE CORRIDORS

ROUTE NAME	MILES	PERCENT STATE	DAILY VMT	PERCENT STATE	DAILY VMT/MILE
1 I-465	52.00	2.17%	3,597,910	2.45%	69,191
2 I-94	40.00	1.67%	2,540,620	1.73%	63,516
3 I-65 SOUTH	106.00	4.43%	3,453,928	2.35%	32,584
4 I-70 EAST	66.00	2.76%	2,057,080	1.40%	31,168
5 I-70 WEST	73.00	3.05%	2,180,670	1.49%	29,872
6 I-65 NORTH	132.00	5.51%	3,667,330	2.50%	27,783
7 I-265	6.00	0.25%	164,270	0.11%	27,378
8 I-69	156.00	6.52%	3,963,720	2.70%	25,408
9 SR 37	42.84	1.79%	845,475	0.58%	19,736
10 I-80/90	172.00	7.19%	3,264,560	2.23%	18,980
11 I-74 EAST	75.00	3.13%	1,402,140	0.96%	18,695
12 US 30	116.81	4.88%	2,085,869	1.42%	17,857
13 US 31	120.43	5.03%	2,101,783	1.43%	17,452
14 I-164	19.00	0.79%	259,590	0.18%	13,663
15 US 41/SR 63	261.27	10.92%	3,387,837	2.31%	12,967
16 I-74 WEST	73.00	3.05%	929,700	0.63%	12,736
17 I-64	121.00	5.06%	1,528,360	1.04%	12,631
18 SR 3/67	13.69	0.57%	142,479	0.10%	10,408
19 US 33	52.58	2.20%	482,618	0.33%	9,179
20 US 231/SR46	66.17	2.76%	558,204	0.38%	8,436
21 US 24/SR25	106.29	4.44%	839,976	0.57%	7,903
22 US 27	107.46	4.49%	775,084	0.53%	7,213
23 US 231 (JASPER)	46.73	1.95%	330,722	0.23%	7,077
24 US 231 (RIVER)	34.69	1.45%	242,694	0.17%	6,996
25 SR 57	38.77	1.62%	220,415	0.15%	5,685
26 SR 69	14.25	0.60%	60,311	0.04%	4,232
27 SR 26	67.07	2.80%	255,781	0.17%	3,814
28 CONNECTIONS	4.48	0.19%	12,127	0.01%	2,707
29 OTHER INTERSTATE	59.00	2.46%	3,733,794	2.55%	63,285
SUB-TOTAL	2,243.53	93.73%	45,085,046	30.74%	20,096
I-469	50.00				
US 20 BYPASS	50.00				
SR 57 (NEW)	50.00				
TOTAL MILES	2,393.53				

## **PROCESS FOR IDENTIFYING FINAL NATIONAL HIGHWAY SYSTEM**

According to the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991, the National Highway System will consist of 155,000 miles (plus or minus 15 percent) of major roads in the United States. Included will be all Interstate routes, a large percentage of urban and rural principal arterials, the defense strategic network and strategic highway connectors. The system, which will be proposed by the Secretary of Transportation after consultation with the states, must be designated by law by September 30, 1995. In the interim, the NHS will consist of highways classified as principal arterials.

The starting point for selecting Indiana's portion of the National Highway System will be the illustrative NHS that was provided to Congress in 1991. As was mentioned earlier, this network consists of 2505 miles of highways and carries 31 percent of the state's vehicle miles of travel (VMT). As part of the effort to identify the NHS, the Act requires the state to functionally reclassify all roads and streets. This reclassification will be carried out by the State in accordance with guidelines and time schedules established by the Secretary of Transportation. Results of the functional reclassification will be used in selecting routes that will be part of the final NHS.

The Indiana Department of Transportation (INDOT) will be

responsible for selecting the routes for the NHS in this state. However, local officials and MPOs will be extensively involved in identifying the state's NHS. We anticipate working closely with local officials both in the functional reclassification process and in selecting specific routes for the final system.

As was stated earlier, the starting point for identifying the NHS will be the illustrative NHS submitted to Congress in 1991. INDOT will use the results of the functional reclassification, the work done in establishing the Commerce Corridors network and input from local officials and MPOs to modify and refine the system into a final NHS proposal for Indiana. This proposal will be submitted to the Secretary of Transportation in the latter part of 1993.

Establishing the NHS is a very important undertaking. This system will greatly impact the state's ability to sustain and improve its economic position in the region and in the United States. The NHS will be an interconnected system of highways constructed to high design standards with controlled access which will provide a high level of service to all regions of the state and connect them to Indiana's external markets. Mileage limits are likely to be imposed by the Federal Highway Administration, and FHWA will also establish the design standards for the system. We anticipate the NHS in Indiana will be somewhere between 2500 and 3000 miles of highways and carry 30 to 35 percent of the state's traffic.