

# The Indianapolis Regional Transportation And Development Study

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Indianapolis Regional Transportation and Development Study

## *Introduction*

In 1945, the Indiana State Highway Commission made an origin-destination study for Indianapolis. It found that one-third of the daily trips in Indianapolis were accommodated by public transportation.

From 1945 to 1956 motor-vehicle traffic in Indianapolis increased nearly 100 percent and public transportation dropped from 33 percent of the daily trips to about 10 percent. Today, motor-vehicle traffic continues to increase with public transportation dropping to an estimated 7 percent of the daily trips.

This decline in public transportation tells us about a significant change in our community, but it does not tell us the whole story.

Without comprehensive transportation planning we actually have little information about what is really happening to our very mobile society.

We must regard our metropolitan area as a growing, living thing. Like a body, we fit it with clothes as a small child, and as it grows, we must continue to refit and adjust in order to meet the new measurements.

So in order to explain what is happening with our Indianapolis Regional Transportation and Development Study, a little background on transportation planning in Indianapolis is provided.

## *Background of Indianapolis Transportation Planning*

In 1956, the city of Indianapolis and the Metropolitan Plan Commission of Marion County contracted with George W. Barton and Associates to develop a county-wide traffic operating plan and a program for street modernization. For the purposes of that study, the 1945 data were adjusted to 1956 through an extensive traffic census and consideration of changes in land use.

Out of this study, known as the 1957 Barton Report, came the official Thoroughfare Plan which was adopted legally by the Metropolitan Plan Commission. This plan included a five-year program of street improvements, and a long range program of objectives which took into consideration the general alignment of the interstate highway network.

By carefully following the recommendations of the 1957 plan, Indianapolis has been able to make comparatively inexpensive improvements which have almost kept pace with the ever increasing automobile traffic.

It has been said that Indianapolis was able to do with "mills" what other cities have spent "dollars" to do. Indianapolis did this by following a plan.

By 1961 it became obvious that new and more comprehensive studies were needed in order to establish new priorities. It was realized that influences of the interstate highway development, extensive changes in land use, soaring automobile ownership and changing traffic distribution had made the 1945 data obsolete.

At about the same time a new and refreshing cooperative spirit on highway problems developed between the Indiana State Highway Commission and the local agencies. Indianapolis, which wanted an up-dating of its highway improvement program and a study of traffic signal modernization, considered joining forces with the State Highway Commission which was interested in conducting a new origin-destination study. Likewise, the staff of the Plan Commission saw the need for obtaining new information on land use, economic growth, and other nonhighway but highway related data.

In April, 1962, the Highway Commission, acting in behalf of the local agencies, engaged the engineering consulting firm of Barton-Aschman Associates to outline and recommend the kind of work which should be undertaken to plan for the transportation needs of the Indianapolis metropolitan area. This prospectus, or scope of study, was completed in July, 1962, two months before the United States Congress passed the 1962 Federal Aid Highway Act. This is an act which, in essence, compels urban areas of more than fifty thousand population to develop a continuing, comprehensive transportation planning process to be carried out cooperatively by state and local communities.

It is emphasized that the Marion County Cooperative Highway Committee saw the need for and took steps to develop a comprehensive transportation study many months before the federal legislation.

For a year and a half after completion of the scope of study, the Cooperative Committee struggled with the details of establishing a study program. With the approval of \$351,030 Housing and Home Finance Agency urban planning grant to the Plan Commission in June of 1963, the Cooperative Committee began to develop a definite program for organization of a study staff. The committee finally agreed that a consulting firm which had engineering and land use planning capabilities should be engaged to provide an "umbrella" of technical direction for a local study staff. This resulted in contracts between Barton-Aschman and the Plan Commission and the Highway Commission, since these agencies were authorized to utilize Housing and Home Finance Agency and Bureau of Public Roads funds. Participating with the Plan Commission was the Indianapolis Board of Public Works. Technical persons from all of these organizations now comprise the IRTADS staff.

Under this program, Indianapolis and Marion County put up \$103,000 in cash, and agreed to contribute \$72,000 in services. The State Highway Commission agreed to participate with BPR funds, paying for 50 percent of the study, programmed to cost \$1,050,000. By July, 1964, details had been worked out on a firm operations plan, size of study area, and agency responsibilities.

By mid-June, 1964, the Indianapolis Regional Transportation and Development Study office was established in leased space on the 23rd floor of the City-County Building.

Under the operations plan, the IRTADS program is divided into five phases. These are:

- Phase 1. Study organization and administration.
- Phase 2. Basic inventories.
- Phase 3. Analysis and summary tabulations.
- Phase 4. Projections, basic planning and systems testing.
- Phase 5. Plan refinement and implementation.

Even though the operations plan was not approved until August of 1964, much of the work went ahead on the Phase 1 jobs. This enabled the IRTADS staff to plunge right into the basic inventories by mid-August of 1964. At the time of this writing (March, 1965) the basic inventories for the Indianapolis Study are virtually completed. In the remainder of this presentation, a description of the work completed in this inventory period is provided. The highway related jobs are discussed first.

*Basic Inventories for the Indianapolis Study*

Starting August 17, four district offices, which were used in conducting both the home interview and the truck-taxi survey, were established. Supervisors and editors were installed in each of these district offices and interviewers work out of these offices obtaining trip information.

On the home interview survey, a five percent sample was selected and programmed over a four-month period, so that 170 households were assigned for interviews each day, excluding Saturdays, Sundays and holidays. In this survey, 10,564 interviews were completed and information was obtained on approximately 80,000 trips. A staff of 35 women carried out this program and obtained an extensive amount of information such as: trip purpose, method of travel, travel time, parking facilities, place of employment, vehicle ownership, income level, etc.

During the same period another staff of 12 men and women surveyed one out of every 12 truck operators and one out of every four taxicab drivers to obtain similar information. In this survey, 2625 interviews were completed and origin-destination information was obtained on 14,356 trips.

Another inventory included the stopping of 67,000 vehicles entering and leaving the study area to obtain origin-destination information. These checks were made by State Highway employees at 41 locations on various days.

While these origin and destination surveys were being made, manual and machine traffic counts were being taken at more than 1,000 different locations on the arterial street system of the study area. Two screen lines were established, with one running east and west along a railroad line south of the central business district. Another screen line was formed by taking machine and manual counts along White River, which runs diagonally through the study area.

In another job, travel time on various links of the arterial street system was measured by several two-man crews of the city engineer's office. Travel time runs during peak and off-peak hours were made over an eight-week period.

These same crews were utilized to assist in a street facilities inventory. This study was sandwiched into days when travel time runs did not occupy their full time. With their assistance, the study staff has measured and evaluated approximately 1,200 miles of arterial streets. This study includes detailed information on pavement widths, parking and traffic control restrictions and other limitations. Also during this

inventory period, passenger volumes and trip and route information was obtained through the excellent cooperation of Indianapolis Transit System, Inc. In addition, seven suburban bus lines also cooperated with the study staff in contributing detailed information concerning commuter traffic.

Another city engineer's crew assisted the study staff in a complete inventory of on- and off-street parking in the central business district. Occupancy of these facilities was checked at various periods of the day.

In addition to all of these studies concerning the transportation of people and goods, a comprehensive transportation study must consider the many other nonhighway factors which influence transportation and are vital in considering the transportation needs of tomorrow.

Since last summer the IRTADS staff has been working closely with the Plan Commission in collecting data for these nonhighway related jobs.

A population and households inventory of the study area has been made to show the quantity and distribution of population, with detailed socio-economic characteristics. Utilizing land use records and latest census data, this study is required in order to identify traffic generation factors and in planning economic and population projections. A field crew of ten persons obtained detailed information on all commercial and industrial facilities in the study area. This crew spent three months in a block-by-block survey recording information by parcel, on use, size, and condition. By evaluating the existing facilities and area, we will be able to gauge traffic generation and ascertain future development needs.

In another study we have made a complete inventory of employment in the study area. Confidential records of the Indiana Employment Security Division were obtained through the State Highway Commission and were used to assign employment to each of the more than 1,200 subzones in the study area. I should emphasize that this assignment process makes no disclosure of confidential information. Other types of employment, such as self-employed, have been analyzed and assigned.

This information will be used in calculating traffic generation factors and for use in our economic analysis. The consulting firm of Hammer and Associates of Washington, D.C., which specializes in economic base studies and projections, has been retained as a subcontractor to gather economic data and make economic analyses. Data have been assembled on natural resources, education, cultural and recreational resources, tax, wage and freight structures, business trends, and

construction indices. This study is near completion and will provide a projection on growth needs for planning.

Another important study which is being conducted is the rail and truck terminal analysis. An inventory is being taken of existing rail and truck terminal facilities and usage. With additional historical information, we will be able to assess the trends and forecast the future general form and function of railroads and the trucking industry.

Just getting under way is our program on air travel analysis which is designed to determine the future airport needs of the community, land requirements and the relationship of air travel to ground transportation. There are indications that Indianapolis is becoming an air-cargo hub for the Midwest. It is evident that the growth of air-cargo, if it continues to mount at the present pace, may have a tremendous impact on ground transportation in the study area.

Another basic inventory is a study called "Development Determinants". This program includes the collection of existing data on developmental trends, plans, and policies from all levels of government, utility companies, transportation agencies and companies, private developers and other sources. Output of this program will be used especially in economic and land use analyses and in land and transportation planning.

An additional government and financial inventory is under way in our program. From this we will get a picture of governmental powers, financial resources, functions of all levels of government and capabilities of the community.

In conclusion, the IRTADS staff is now tabulating and summarizing these data and is initiating basic economic and transportation analysis of the inventory. This summer we expect to publish our first major report on existing land use, economic and traffic conditions.

The testing of future (1985) alternate transportation systems should begin late this summer and continue through the fall. By early next year the recommended future transportation plan should emerge from the systems testing process. Refinement of the future plan and work on the program of initial improvements should continue through the remainder of 1966.

#### *Objectives of the Three-Year IRTADS Program*

In general there are five major objectives in the three-year IRTADS program. They are:

1. A 1985 projected land use based on residential, commercial, and industrial land needs,

2. A 1985 recommended street system and transit system based on calculated 1985 person trips, distribution of trips and modal split,
3. A program of initial improvements compatible with long range plans,
4. An outline of fiscal and legislative requirements in order to develop the required plans,
5. Development of a data framework and a program for the continuing study.

### *Conclusion*

History has proven that the security of a nation and its economic welfare are dependent on transportation, both in meeting normal and emergency needs. The rapid growth of our urban areas in recent years has magnified our transportation problems and emphasized the importance of transportation planning. Large urban communities can no longer continue to grow by osmosis. Without comprehensive transportation planning we run the risk of building multi million dollar mistakes into our cities.