



Research and Development Division



Discovery with Delivery

INDIANA DEPARTMENT
OF TRANSPORTATION

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Who we are

The INDOT Research Program dating from 1937 has been described as one of the oldest active and cost effective State DOT Cooperative Research Programs in the nation. The mission of the INDOT Research and Development Program is to conduct, oversee and partner in cost-effective transportation research and innovation; perform specialized testing and forensic investigations; assist in technology transfer and provide expertise and technical assistance in solving Indiana's transportation problems.

How we are funded

The INDOT Research Program is funded primarily with dedicated State and Federal funding under the State Planning and Research (SPR) Part II Program. The program also receives funds from various national research programs (e.g. NCHRP and Pooled Fund Studies), FHWA Technology Deployment funds, SHRP 2 Implementation funds, and other programs including industry partners.

What we do

The mission of the INDOT Research and Development Division is to conduct and oversee transportation research, perform specialized testing and assist in technology transfer and implementation. The following are the major activities in the Division.

- Identify priority needs within the Department that can be addressed through research.
- Conduct cost effective research and innovation in a timely manner to address the needs of our customers.
- Assist customers/stakeholders to fully implement research findings.
- Enable a good return on investment on the research and implementation investment.
- Perform specialized testing to foster data driven decision making and reduce risk.
- Conduct forensic investigations of failed materials.
- Assist in technology transfer; and provide technical assistance to INDOT decision makers.

All major areas of transportation are represented in the research program, including policy, finance, forecasting, economic development, mobility, construction, pavement, materials, traffic safety, traffic engineering, environmental, structures, design, management systems, and operations.

Staff

The INDOT Research and Development Division includes 27 employees. The INDOT Research and Development staff is comprised of INDOT civil service employees. The full time staff size consists of professional engineers, IT system specialist, technicians, and other professional staff. INDOT Research and Development is also complimented with university undergraduate and graduate students to assist in research projects.

Performance Measures

Research on transportation is performed with the intent that successful findings where implemented, will result in significant cost savings to the public. These cost savings and achieved through increased in operating and maintenance efficiencies, reduced in costs, increased health and safety, or minimal impacts on the environment. A previous cost analysis conducted by the INDOT R&D Division and the Office of Finance found a Modified Internal Rate of Return (MIRR) for projects evaluated, ranging from 25-38%. All project MIRR exceeded the identified “hurdle” rate of 10%. A corresponding benefit cost (B/C) analysis determined B/C ratios ranged from 4 - 144 with an overall B/C average of 75:1. The costs savings generated from these projects offset the future costs of the Research Program, indicating the program is “self supporting”. Other benefits were found from the completed research, but could not be quantified in terms of cost savings.

Facilities

- Located on 10 Acres in the Purdue Research Park, West Lafayette, Indiana and is adjacent to Discovery Park, the state’s first Certified Technology Park.
- Main Building (16,264 SFT) – Houses the Research Division Offices for the day-to-day management of the Research Program and facilities.
- Research Laboratory (20,300 SFT) – Houses laboratory testing facilities for researching transportation materials
- Accelerated Pavement Testing Facility (2,000 SFT) – Used for accelerating load applications to pavement test sections to research their performance. Testing data is used to determine pavement service lives.
- Falling Weight Deflectometer Calibration Center (2,500 SFT) – The Research Division uses Falling Weight Deflectometer (FWD) testing to research the in-situ structural adequacy and performance of pavements.
- Specialized Testing Support Facility (4,000 SFT) – The Research Division’s Specialized Testing Program includes FWDs, Ground Penetrating Radar, Friction Testing, and Smoothness Testing Equipment.
- Test Track – Used for the calibration of the Friction Testing equipment as well as the long-term monitoring of asphalt pavements.



Pavement and Materials Research



Traffic Safety Research



Accelerated Pavement Testing facility



Materials Testing facility