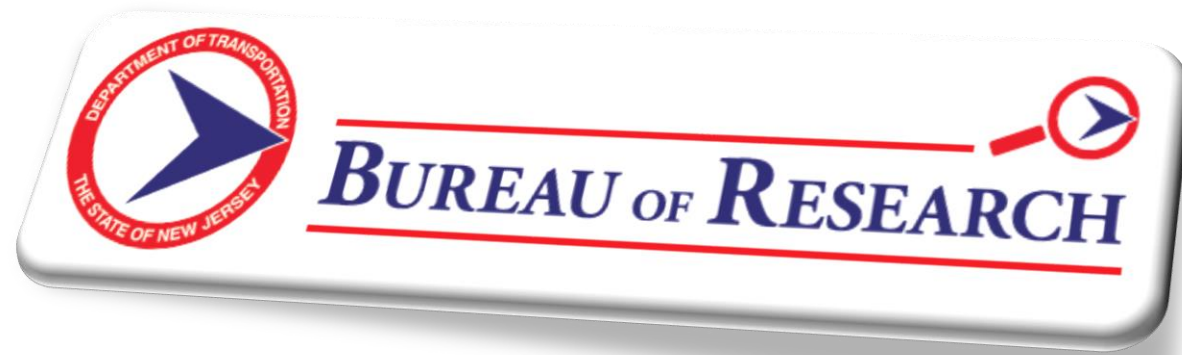


# ***New Jersey Department of Transportation Statewide Planning***



***Camille Crichton-Summers  
Manager***



# Research Team

## Research Project Managers

- ▶ **Kimbrali Davis**
- ▶ **Amanda Gendek**
- ▶ **Tineen Howard**
- ▶ **Stefanie Potapa**
- ▶ **Mamun Rashid**
- ▶ **Pragna Shah**
- ▶ **Priscilla Ukpah**
- ▶ **Giri Venkiteela**



# Research Team

## Administration

- ▶ **Stephanie Nock**

## Contracts

- ▶ **Sue Rizzo**

## Research Library

- ▶ **Carol Paszamant**
- ▶ **Laurie Strow**



## **Why conduct Research?**

The goal is to enhance the quality and cost effectiveness of the engineering policies, practices, standards and specifications that are used in planning, building and maintaining New Jersey's transportation infrastructure.

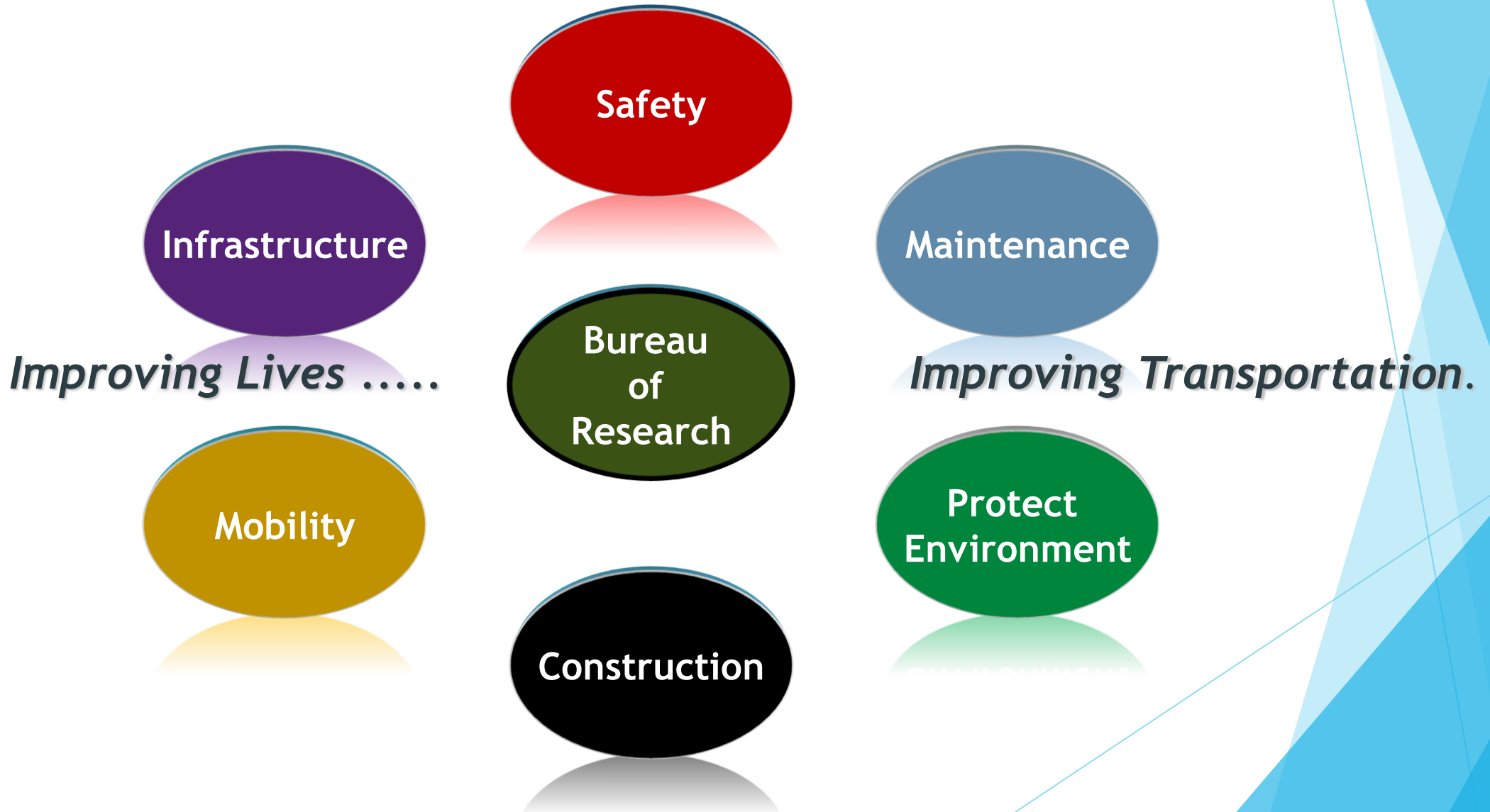
**-Federal mandate Title 23**

**-Foster Innovation... Solve Local Challenges**

**-Better, Faster, Cheaper**



# The Bureau of Research delivers customer focused quality research and technology transfer solutions.



# Capital Investment, Planning and Grant Administration (CIPGA)

## Statewide Planning/Research Bureau of Research Functions

- ❑ **New Jersey Transportation Research Program**
- ❑ **National Research Coordination**
- ❑ **Technology and Knowledge Transfer Services**
- ❑ **Research Implementation Assistance**



# NJDOT LOCAL RESEARCH PROGRAM

## How We Do It...

- **Solicit problem statements**
- **Develop RFP's**
- **Review and select winning proposals**
- **Monitor/Conduct research studies**
- **Ensure technology transfer, training, and implementation**

- Email solicitation in lieu of meeting
- Quick review until after ranking by ROC

Website posting: RFP's, Q&R vs proposal meeting

Automation of forms using PROMPTS: RFP, SPR reporting, performance reports, departmental/ financial forms

Implementation follow up and closeout forms added

# New Jersey Transportation Research Program

## Solicit Multimodal Research Needs

- ▶ **New Jersey Department of Transportation (NJDOT)**



- ▶ **New Jersey Transit (NJ Transit)**



- ▶ **Motor Vehicle Commission (MVC)**



- ▶ **Others (State Police, State Legislature, Law & Public Safety)**



# SOLICITATION

## 2 ways to submit research needs

Attachment A

PROBLEM NO.: \_\_\_\_\_ 200X  
(Assigned by Research)

**NEW JERSEY DEPARTMENT OF TRANSPORTATION  
REQUEST FOR RESEARCH**  
"Turning Problems into Solutions"

TO: Bureau of Research

SUBMITTED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

SUBJECT/TITLE: \_\_\_\_\_

DIVISION/BUREAU: \_\_\_\_\_

CONTACT PERSON: \_\_\_\_\_ PHONE NO. \_\_\_\_\_

PROBLEM STATEMENT/NEED:

ESTIMATED TIME FOR RESULTS (WEEK/MONTHS):

ANTICIPATED BENEFITS:

POTENTIAL YEARLY COST SAVING (if applicable):

REQUESTED BY: \_\_\_\_\_  
MANAGER

Engineering | In the Works | Capital Program | Freight, Air and Water | Doing Business

### Research

#### Guidelines, Formats and Forms

##### Request For Research Form

Research users can use this form to submit problem statements relating to transportation operation and infrastructure. The problem statement may be submitted using this electronic form or by printing and forwarding a [hard copy](#) of the Request for Research form to:

Bureau of Research  
P. O. Box 600  
1035 Parkway Avenue  
Trenton New Jersey 08625-0600  
FAX: 609-530-3722

For all other inquiries, use the [contact NJDOT](#) form.

**Call For Research:** Research Products can help you save time and money and improve business. Please submit your research needs here:

\* Required Field

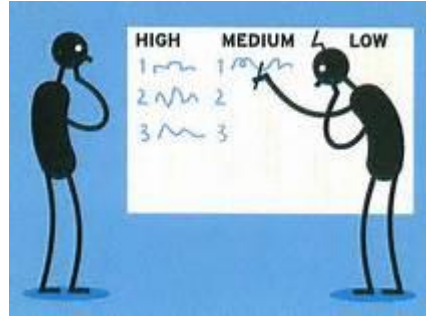
Today's date:	<input type="text"/>
Submitted by:	<input type="text"/>
* E-mail address:	<input type="text"/>
Subject/Title:	<input type="text"/>
Division/Bureau:	<input type="text"/>
Contact person:	<input type="text"/>
Problem Statement/ Needed:	<input type="text"/>
Estimated time for results: (week/months)	<input type="text"/>
Anticipated benefits:	<input type="text"/>
Potential yearly cost savings:	<input type="text"/>

**SUBMIT** Clear Form

[Contact Us](#) | [Privacy Notice](#) | [Legal Statement](#) | [Accessibility Statement](#)

# Bureau of Research Activities

## ADMINISTER NJ TRANSPORTATION RESEARCH PROGRAM



- **Research Procurement IHE**
- **Treasury Consultant Selection for Research**
- **Oversight - Project Management**
- **Performance measurement**
  - **Research Implementation**

# PROCUREMENT

## Requests for Proposals

### Research

#### Research Procurement

In compliance with the Uniform Administrative Guidance 2 CFR 200, state agencies awarding federal aid are required to “evaluate each sub recipient’s risk of noncompliance with Federal Statutes and regulations”. Effective 7/1/2016 all Institutions of Higher Education having a basic agreement with NJDOT must complete and submit a completed [Risk Prequalification Assessment Form](#) (pdf 388k) as a requirement for tasks or activities being conducted on behalf of NJDOT. This shall be renewed annually.

Please note that for all future RFP proposal submissions, Principal Investigators will be required to complete an additional project specific [Pre-award Risk Assessment form Exhibit A](#) (pdf 175k). Thank for your continued participation in the NJDOT Research program.

#### Request for Proposals

Universities that have a signed and executed Basic Agreement may respond to the following Request for Proposals (RFPs).

RFP Number	Posting Date	Project Description (PDF sizes from 26k to 247k unless otherwise noted)	Requested Pre-bid Meeting	Closing Date
2017-01	9/7/16	<a href="#">Calibration/Development of Safety Performance Functions for New Jersey</a>		10/7/16
2016-17	7/21/16	<a href="#">Intelligent Transportation Systems Resource Center (ITSRC)</a>		8/26/16
2016-16	7/6/16	<a href="#">Traveler Information Application for Route 1 and Route 18 Corridors</a>		8/5/16
2016-14	6/1/16	<a href="#">Real Time Traffic Signal System Performance Measurement</a>		7/5/16
2016-13	6/1/16	<a href="#">Evaluation of Semi-Circular Bend Test for HMA Specialty Mixes (BRIC, High-Rap and HPTO)</a>		7/5/16
2016-12	5/24/16	<a href="#">Demonstration of Research Web-based Program Management Tool</a>  Reference Documents: <ul style="list-style-type: none"> <li><a href="#">Anticipated System Requirements</a></li> <li><a href="#">Bureau’s Research Project Activities Flow Chart</a></li> <li><a href="#">NJ OIT’s RFP Template for State of New Jersey Technology Projects</a></li> </ul>		6/13/16
2016-11	5/2/16	<a href="#">Technology Transfer Program</a>  Reference Documents: <ul style="list-style-type: none"> <li><a href="#">Official NJDOT Public Access Plan</a></li> </ul>	5/31/16 1:30pm (Location details below)	6/10/16
2016-10	3/4/16	<a href="#">NY/NJ Harbor Contamination Assessment and Reduction Project</a>  <a href="#">Questions and Answers</a>		4/13/16
2016-09	2/17/16	<a href="#">Detection of Damage Precursors in Steel Components for Life-Cycle Assessment</a>  <a href="#">Questions and Answers</a> (As of 3/24/16)		3/28/16

# SOLICITATION

## Implementation of Risk Management 2 CFR 200 Guidelines

Each Research Partner must complete a 56 question survey that determines the level of risk of an institution in the following key areas of operation:

- ▶ Financial Management Systems
- ▶ Audit Information
- ▶ Procurement Management Systems
- ▶ Personnel Systems
- ▶ Property Management Systems
- ▶ Document Retention Policy
- ▶ Project Schedule Management Systems

### RISK PREQUALIFICATION ASSESSMENT (2 CFR 200)

This form must be completed by parties wishing to *qualify to apply* for projects and to enter into a contractual agreement with NJDOT as a prime recipient entity.

Attach your organization's most recent audit report to this form. If your organization has expended more than \$750,000 in federal grant funds within a year, please attach an A-133 audit form.

#### Organization Information

Organization Name:

Department/Center/Institute/Organization Address

PHONE

FAX

EMAIL

#### Authorized Fiscal Officer of Organization Information

Authorized Fiscal Officer First and Last Name:

Authorized Fiscal Officer Department/Center/Institute/Organization Address

AFO PHONE

AFO FAX

AFO EMAIL

Commercial and Government Entity Code (CAGE): Data Universal Number System (DUNS) Number:

#### Risk Assessment

##### Financial Management Systems

1. Is your organization new?

Yes  No  Not Applicable

2. Does your organization have experience managing federal funds:

Yes  No  Not Applicable

3. At what frequency will your organization submit invoices?

Weekly  Monthly  Quarterly  Bi-Annually  Yearly

Other:

## Implementation of Risk Management 2 CFR 200 Guidelines

Each Principal Investigator (PI), primary and sub-primary must complete an additional 15-question survey that identifies and risk associated with the research team members. Key areas include:

- ▶ Research Team Member Experience
- ▶ Potential Affects from project implementation
- ▶ Research Team staffing availability
- ▶ Research Team staffing capability
- ▶ Research Team's equipment/facility adequacy

### Exhibit A

#### NJDOT BUREAU OF RESEARCH

##### PREAWARD RISK ASSESSMENT (2 CFR 200)

1. This form must be completed by parties wishing to enter into a contractual agreement with NJDOT as a prime or subrecipient entity. Please select one circle representing the applicant:  
 Prime Recipient  Subrecipient
2. Please provide one Preaward Risk Assessment form per prime recipient and per subrecipient.
3. Attach each prime recipient's and subrecipient's budget when submitting a proposal.
4. Attach each subrecipient's most recent audit report, if available. If your organization has expended more than \$750,000 in federal grant funds within a year, please attach an A-133 audit form, if available.

Project Title  Request for Proposal (RFP) #  Date Submitted to NJDOT

If you are the Subrecipient, please skip the Prime Recipient Information section and select this circle:

#### Prime Recipient Information

PI First and Last Name:

PI Department/Center/Institute/Organization Address:

PI PHONE

PI FAX

PI EMAIL

#### Authorized Fiscal Officer of Prime Recipient Information

Authorized Fiscal Officer First and Last Name:

Authorized Fiscal Officer Department/Center/Institute/Organization Address:

AFO PHONE

AFO FAX

AFO EMAIL

Commercial and Government Entity Code (CAGE):

Data Universal Number System Number (DUNS):



# Research Partners

- Monmouth University
- New Jersey Institute of Technology (NJIT)
- Princeton University
- Richard Stockton University
- Rowan University
- Stevens Institute of Technology
- The College of New Jersey
- Rutgers University
- University of Medicine & Dentistry of New Jersey (UMDNJ)
- Alan M. Voorhees Transportation Center (VTC)
- National Center for Transportation & Industrial Productivity (NCTIP)
- *The Center for Advanced Infrastructure & Transportation (CAIT)*
- *University Transportation Research Center (UTRC)*
- ❖ Cambridge Systematics

## UTRC/CAIT partners

Columbia University  
University of Delaware  
University of South Florida  
University of Texas at El Paso  
Utah State University  
Virginia Polytechnic Institute  
City University of New York  
Clarkson University  
Cornell University  
Hofstra University  
Manhattan College  
Polytechnic Institute of NYU  
New York University  
Rensselaer Polytechnic Institute  
Rochester Institute of Technology  
State University of New York (SUNY)  
Syracuse University  
University of Puerto Rico - Mayagüez



# Proposal evaluation

New Jersey Department of Transportation - Bureau of Research

## Proposal Evaluation Form (Step 1A)

The following form is to evaluate proposals. For each of the categories listed, assign the following points based on the review of the proposal. (Fill gray areas)

Rating: Excellent = 4; Above Average = 3; Average = 2; Below Average = 1; Not Covered = 0

Proposal Number:

Name of the Reviewer:

Reviewer Signature:

Proposal Review	Rating	Weight	Score
<b>1. UNDERSTANDING OF THE PROPOSAL</b>			
1.1 Does the proposal presents clear understanding of the problem statement?		3.0	
<b>2. RESEARCH APPROACH AND PRINCIPLES</b>			
2.1 Are the scientific and practical techniques presented in the proposal shape clear research methodology?		4.5	
2.2 Do the proposed tasks effectively address all the objectives listed in the RFP?		4	
2.3 Does the proposal follow effective research principles		2.5	
<b>3. INNOVATION AND IMPLEMENTATION OF RESULTS</b>			
3.1 Are there any innovative ideas, techniques, materials contained in the proposal?		2.5	
3.2 Implementation plan		1.5	
<b>4. PROPOSED RESEARCH SCHEDULE</b>			
4.1 Is the time line shown appropriate for each task?		2	
<b>SCORE FOR THIS PROPOSAL</b>			
<b>MAXIMUM SCORE</b>			<b>80.0</b>

Note: Although the scores are not released to universities, your comments and feedback can help improving future proposals.

Strengths: What did you like best in the proposal?

Aspects that could be improved: What was unclear, missing or confusing?

New Jersey Department of Transportation- Bureau of Research

## PI performance Evaluation Form (Step 1B)

The following form is used to evaluate the proposals through oral presentations. For each of the categories listed assign the following points based on the presentation. (Fill gray areas)

Rating: Excellent = 4; Above Average = 3; Average = 2; Below Average = 1; Not Covered = 0

Proposal Number:

Research team /University:

Name of the Reviewer:

Reviewer Signature:

Proposal Review	Rating	Weight	Score
<b>1. THE EXPERIENCE, QUALIFICATION AND AVAILABILITY OF THE RESEARCH TEAM</b>			
1.1 Is the research team's background and experience relevant to the project?		2	
1.2 Availability/Other Commitments of research Team		1.5	
1.3 Principal Investigator Past Performance on NJDOT projects		1.5	
<b>SCORE FOR THIS PROPOSAL</b>			
<b>MAXIMUM SCORE</b>			<b>20.0</b>

Note: Although the scores are not released to universities, your comments and feedback can help to improve future proposals.

Strengths: What did you like best in the presentation?

Aspects that could be improved: What was unclear, missing or confusing?

New Jersey Department of Transportation- Bureau of Research

## Proposal Oral Presentation Evaluation Form (Step 2) (Optional)

The following form is used to evaluate the proposals through oral presentations. For each of the categories listed assign the following points based on the presentation. (Fill gray areas)

Rating: Excellent = 4; Above Average = 3; Average = 2; Below Average = 1; Not Covered = 0

Proposal Number:

Research team /University:

Name of the Reviewer:

Reviewer Signature:

Proposal Review	Rating	Weight
<b>ORAL PRESENTATION</b>		
1. Effectiveness of the presentation for better understanding the submitted proposal		2.5
2. Research team response to questions/comments		1
3. Overall confidence in research team		1.5
<b>SCORE FOR THIS PROPOSAL</b>		
<b>MAXIMUM SCORE</b>		<b>20.0</b>

Note: Although the scores are not released to universities, your comments and feedback can help to improve future proposals.

Strengths: What did you like best in the presentation?

Aspects that could be improved: What was unclear, missing or confusing?

# New Jersey Transportation Research Program

## Contract/Grants Management Oversight

### ▶ **Institutions of Higher Education (IHEs)**

#### ▶ **NJDOT Resource Centers and Support Programs**

#### ▶ **Bicycle and Pedestrian (BikePed)**

#### ▶ **Pavement Support Program (PSP)**

#### ▶ **Bridge Support Program (BSP)**

#### ▶ **Safe Routes to School (SRTS)**

#### ▶ **Intelligent Transportation Systems (ITSRC)**

#### ▶ **Transportation Safety (TSRC)**



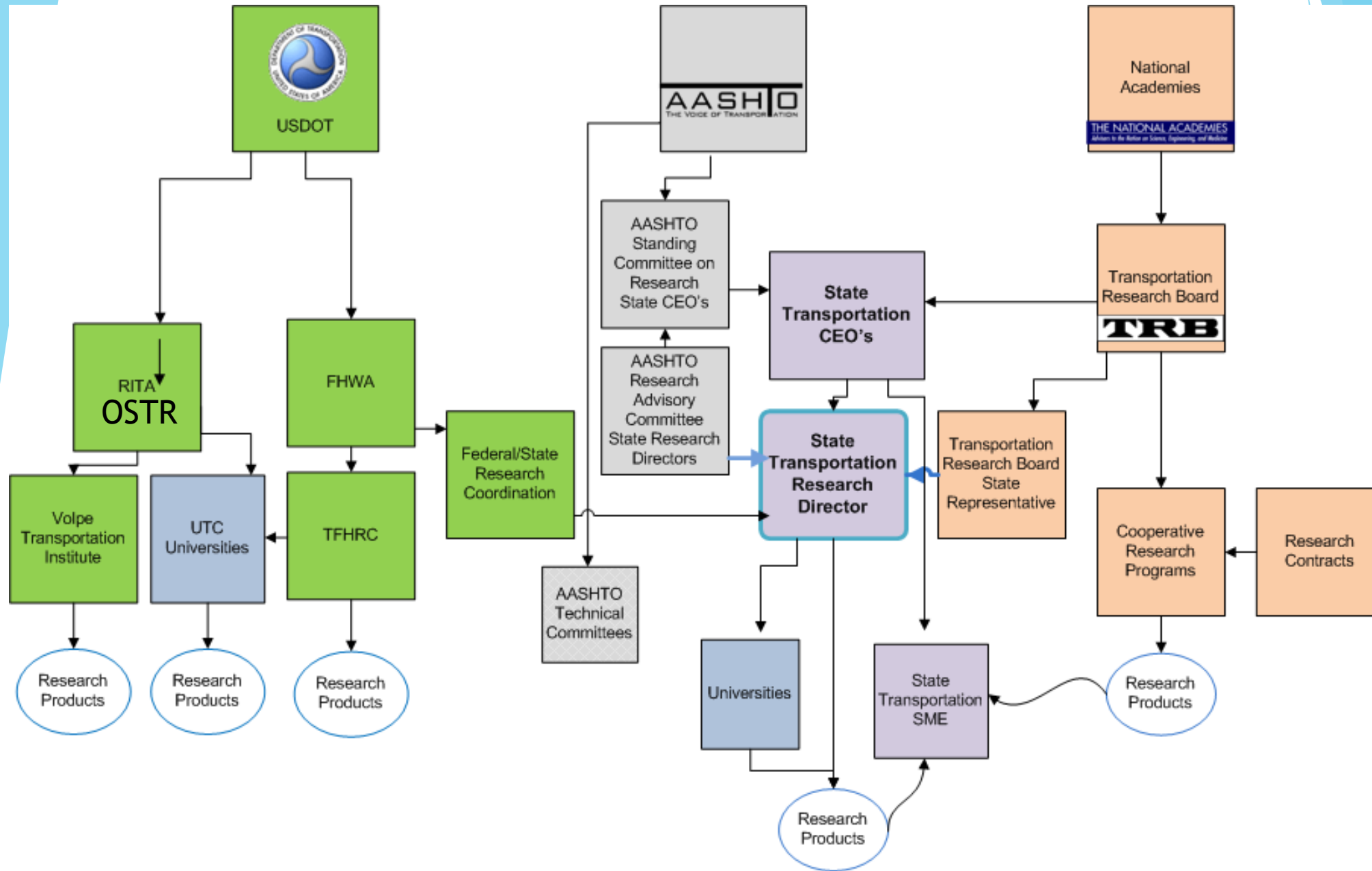
# Bureau of Research Activities

## ADMINISTER NJ TRANSPORTATION RESEARCH PROGRAM

- Local Technical Assistance (LTAP) Oversight
- Convene periodic FHWA Research Peer Exchange
- Certification and reporting to FHWA



# National Research Coordination



# National Research Coordination



1. Coordination of National Survey Responses
2. Solicit Transportation Research Board (TRB) Committee Members <https://www.mytrb.org/DirectorySearch.aspx>
3. Solicit National Cooperative Highway Research Program (NCHRP) Project Panel Members  
<https://www.mytrb.org/DirectorySearch.aspx>
4. Coordinate NCHRP Research Balloting on Behalf of NJDOT
5. Coordinate Participation in FHWA National Pooled Funds Studies <http://www.pooledfund.org/>
6. Encourage & Coordinate TRB Annual Meeting Participation
7. Encourage American Association of State Highway and Transportation Officials (AASHTO) Committee Membership
8. Long Term Pavement Performance Coordination

# AASHTO

- ▶ Special Committee on Commissioners and Boards
- ▶ [Special Committee on Intermodal Transportation and Economic Expansion](#)
- ▶ Special Committee on Joint Development
- ▶ [Special Committee on Transportation Security and Emergency Management](#)
- ▶ [Standing Committee on Aviation](#)
- ▶ [Standing Committee on the Environment](#)
- ▶ [Standing Committee on Finance and Administration](#)
  - ▶ [Subcommittee on Civil Rights](#)
  - ▶ [Subcommittee on Fiscal Management and Accounting](#)
  - ▶ [Subcommittee on Information Systems](#)
  - ▶ [Subcommittee on Internal and External Audit](#)
  - ▶ Subcommittee on Legal Affairs
  - ▶ [Subcommittee on Personnel and Human Resources](#)
  - ▶ [Special Committee on TRAC](#)
  - ▶ [Subcommittee on Transportation Communications](#)
  - ▶ [Subcommittee on Transportation Finance Policy](#)
- ▶ [Standing Committee on Highway Traffic Safety](#)
  - ▶ [Subcommittee on Safety Management](#)
  - ▶ [AASHTO Strategic Highway Safety Plan](#)
- ▶ [Standing Committee on Highways](#)
- ▶ [Subcommittee on Right-of-Way and Utilities](#)
- ▶ [Subcommittee on Systems Operation and Management](#)
- ▶ [Subcommittee on Traffic Engineering](#)
  - ▶ [National Committee on Uniform Traffic Control Devices](#)
- ▶ Joint AASHTO/ACEC Committee
- ▶ [NTPEP Oversight Committee](#)
- ▶ [Special Committee on International Activity Coordination](#)
- ▶ [Special Committee on U.S. Route Numbering](#)
- ▶ [Special Committee on Wireless Communications Technology](#)
- ▶ [Technology Implementation Group](#)
- ▶ [Standing Committee on Performance Management](#)
  - ▶ [Subcommittee on Organizational Management](#)
- ▶ [Standing Committee on Planning](#)
  - ▶ [Subcommittee on Asset Management](#)
  - ▶ [Task Force on Capacity Building](#)
  - ▶ [Subcommittee on Data](#)
  - ▶ [Subcommittee on Policy](#)
  - ▶ [Subcommittee on Research](#)
- ▶ [Census Transportation Planning Products Program \(CTPP\)](#)



# National Academies: TRB Committees

- ▶ ADD20 Social and Economic Factors of Transportation  
<https://sites.google.com/site/trbadd20/>
- ▶ ADB50 Transportation Planning Applications <http://www.trb-appcon.org>
- ▶ ADA10 Statewide Multimodal Transportation Planning  
<https://sites.google.com/site/statewideplanning/>
- ▶ ADD30 Transportation and Land Development  
<https://transportationandlanddevelopment.wordpress.com/>
- ▶ AB000 Policy and Organization Group <http://sites.google.com/site/trbcommitteeab000>  
ABE10 Revenue and Finance <http://sites.google.com/site/trbcommitteeabe10/>
- ▶ ABC20 Management and Productivity <http://sites.google.com/site/trbcommitteeabc20/>  
ADA20 Metropolitan Policy, Planning, and Processes  
[http://www.gtcmppo.org/TRBADA20\\_3/](http://www.gtcmppo.org/TRBADA20_3/)
- ▶ ABG20 Transportation Education and Training <http://www.trb-education.org>
- ▶ ADD10 Transportation and Economic Development  
<https://sites.google.com/site/tedcommittee/home>
- ▶ ABC10 Strategic Management  
<https://sites.google.com/site/trbstrategicmanagementcmtee> AT015 Freight  
Transportation Planning and Logistics  
<https://sites.google.com/site/trbfreightplanningcommittee/home>
- ▶ AT055 Truck Size and Weight <http://www.trucksizeandweight.com>
- ▶ AT045 Intermodal Freight Transport <https://sites.google.com/site/trbat045>
- ▶ AT010 Freight Transportation Economics and Regulation  
<https://sites.google.com/site/at010trb/>

# Technology and Knowledge Transfer Services

- ❖ Brown Bag Lectures/Visiting Scholars
- ❖ Convene Annual Research Showcase
- ❖ National transportation database updates
  - Transportation Research Information Database (TRID)
  - Research In Progress (RIPs)
- Research Final Reports and Technical Briefs distribution
- NJDOT Research Library, State Library Branch Operations
  - National transportation library access

RESEARCH

18<sup>th</sup> Annual Research Showcase

Wednesday, October 26<sup>th</sup>

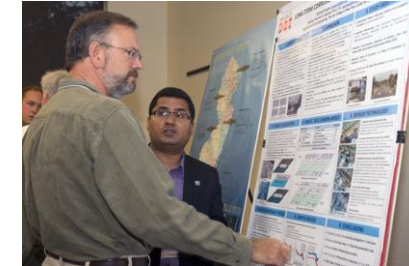
8:30am-3pm

Mercer County Community College

Registration is Now Open

[Additional Information](#)

Please [submit the Ethics Form](#)  
and obtain approval then [register](#).



# Research Library



NJ Home | Services A to Z | Departments/Agencies | FAQs  
Site Index | Search: NJ Home  NJDOT   
STATE OF NEW JERSEY  
DEPARTMENT OF TRANSPORTATION  
Chris Christie, Governor | Kim Guadagno, Lieutenant Governor

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Engineering | In the Works | Capital Program | Freight, Air and Water | Doing Business

## Research Library Overview

- Announcements
- Collections
- Selected Recent Acquisitions
- Loan Policies
- Using the Library
- Useful Links

## Research Library

### Overview

The New Jersey Department of Transportation (NJDOT) Research Library is a branch of the [New Jersey State Library](#) and is funded by the Federal Highway Administration State Planning and Research Program (FHWA).

The library serves New Jersey state government employees and members of the general public by providing reference and referral services, an [online catalog](#) and [lending materials](#) on site or by an inter-library loan through another library, photocopying (fee charged), literature searches and notification of new materials.

The Research Library collects documents from a variety of sources, including the [Transportation Research Board](#), [FHWA](#), other [State DOT's](#) and NJDOT, particularly its [Research Bureau](#).

The Research Library is located on the first floor of the Engineering & Operations Building of the David J. Goldberg Transportation Complex at 1035 Parkway Avenue in Ewing.

Library Staff is available Monday through Friday from 9 am to 5 pm. Library [services](#) are available in full to New Jersey state employees. The general public may use the collection by [e-mail appointment](#).

[Contact Us](#) | [Privacy Notice](#) | [Legal Statement](#) | [Accessibility Statement](#)

department: home | about | NJ commuter | in the works | business | engineering | freight, air & water | capital | community | data | links | index  
statewide: NJ Home | about NJ | business | government | state services A to Z | departments



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Research Library Overview

Announcements

Collections

Selected Recent Acquisitions

Loan Policies

Using the Library

Useful Links

## Research Library

### Selected Recent Acquisitions

The collection of the New Jersey Department of Transportation Research Library is not yet completely entered in the State Library Catalog. During the interim the library staff maintains a Selected Recent Acquisitions (SRA) list of new items that can be searched by subject.

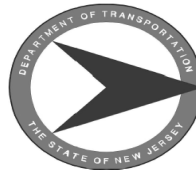
[Recent Acquisitions](#) (pdf 203k)

Paper Media

Visual Media

Construction | - Select Video Subject -

SUBMIT



NJ DEPARTMENT OF TRANSPORTATION

RESEARCH LIBRARY

SELECTED RECENT ACQUISITIONS

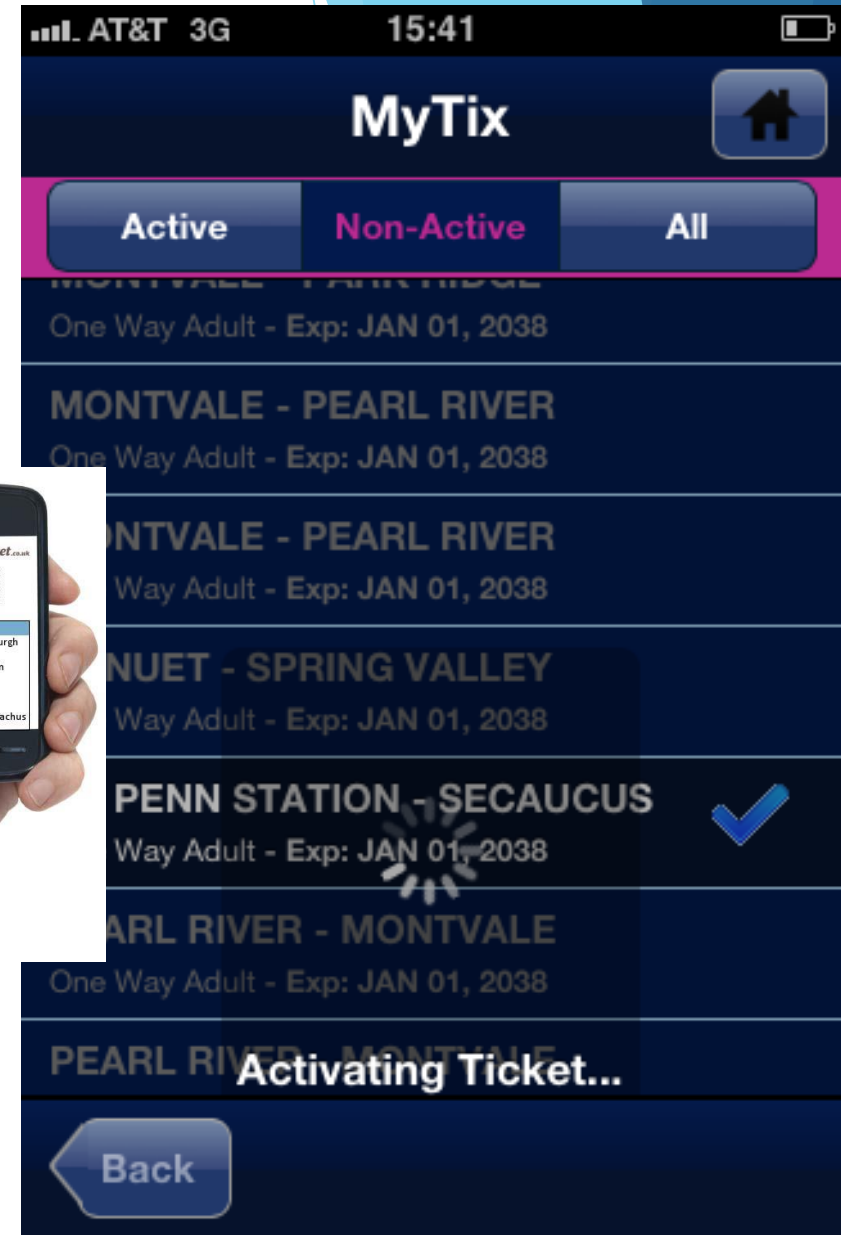
October - December 2015

The resources reported in this issue are listed by main subject area and then alphabetically by title. Each item is listed only once, so please check related subjects for additional materials that may be of interest. If you would like to see any of these items and there is no link to an online version, please contact the Research Library at [library@dot.state.nj.us](mailto:library@dot.state.nj.us) (Library, DOT) or call 609-530-5289 for these or any other publications.

# Mobility

## MyTix: NJ TRANSIT's Mobile Ticketing Application

Development and evaluation of the mobile ticketing application (MyTix) for NJ TRANSIT. The app was evaluated in field, and its large-scale use in the whole NJ TRANSIT commuter rail system was analyzed.



<http://www.state.nj.us/transportation/refdata/research/reports/FHWA-NJ-2015-003-TB.pdf>



# Pavement Preservation

- **High Reclaimed Asphalt Pavement in Hot Mix Asphalt**
- **HMA Pay Adjustment**
  - Evaluated multiple quality characteristics of hot-mix asphalt (HMA) for pay adjustment in quality assurance (QA).
  - Life-cycle cost analysis (LCCA) was used to develop performance-related pay adjustment
  - Draft specifications developed



# Environment

- Impacts of EPA 2012 Commercial Pump-Out Regulations
- Heavy Metal Contamination in Highway Marking Beads



## Heavy Metal Contamination in Highway Marking Glass Beads

- Enhance visibility for night driving through *retroreflectivity*.



Roadway with glass beads vs. one without





# Infrastructure

- **Cost of Roadway Construction, Operations & Maintenance in NJ**
- **Heavy Vehicle Load Simulator for Bridge Deck Testing Application**

Evaluate full scale bridge decks in an accelerated manner by applying realistic traffic and environmental loading conditions in a greatly compressed timeframe, simulating 15 years of deterioration in 6 months



**Table 4 – Summary Cost per Lane Mile Estimates for Roadways and Bridges under NJDOT Jurisdiction by Fiscal Year**

Cost Per Lane Mile Estimates	2010	2011	2012	2013	2014	Average
Administration, Planning & Research	\$7,282	\$7,261	\$8,491	\$9,167	\$5,924	\$7,625
Capital Construction	\$151,756	\$131,713	\$101,004	\$96,305	\$137,999	\$123,755
Operations & Maintenance	\$37,567	\$54,468	\$47,312	\$58,072	\$64,465	\$52,377
<b>TOTAL</b>	<b>\$196,606</b>	<b>\$193,442</b>	<b>\$156,807</b>	<b>\$163,544</b>	<b>\$208,388</b>	<b>\$183,757</b>

# Safety



- Breakaway Utility Poles
- Restricted-Use Licenses for Suspended Drivers
- Graduated Driver's License



Figure 2. Peeled Tag



# Research Implementation Assistance

- ▶ Local Research Implementation Assistance
- ▶ Facilitate Introduction, Implementation and/or Assist in NJDOT's involvement in
  - ▶ Second Strategic Highway Research Program (SHRP2)
    - ▶ Lead adopter, user incentives
  - ▶ Strategic Transportation Innovation Council (STIC)
  - ▶ Every Day Counts (EDC)





# Please Visit!

<http://nj.gov/transportation/refdata/research/>

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**DEPARTMENT OF TRANSPORTATION**  
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## Research

### Overview

The New Jersey Department of Transportation's (NJDOT) research staff works directly with university and other research professionals to find workable solutions to problems that face transportation engineers. The goal is to enhance the quality and cost effectiveness of the engineering policies, practices, standards and specifications that are used in planning, building and maintaining New Jersey's transportation infrastructure.

NJDOT research customers may submit a Request for Research using the [online form](#) or a [hard copy form](#) (pdf 78k). [Ongoing research](#) project status, [guidelines, formats and forms](#) and [useful links](#) to other local, state and national agencies are available here.

Learn more about the [Bureau of Research](#). (pdf 297k)

You will need Adobe Acrobat Reader, which is available at our state [Adobe Acrobat Access](#) page, to view the PDF files.

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## Research Library

### Overview

The New Jersey Department of Transportation (NJDOT) Research Library is a branch of the [New Jersey State Library](#) and is funded by the Federal Highway Administration State Planning and Research Program (FHWA).

The library serves New Jersey state government employees and members of the general public by providing reference and referral services, an [online catalog](#) and [lending materials](#) on site or by an inter-library loan through another library, photocopying (fee charged), literature searches and notification of new materials.

The Research Library collects documents from a variety of sources, including the [Transportation Research Board](#), [FHWA](#), other [State DOT's](#) and NJDOT, particularly its [Research Bureau](#).

The Research Library is located on the first floor of the Engineering & Operations Building of the David J. Goldberg Transportation Complex at 1035 Parkway Avenue in Ewing.

Library Staff is available Monday through Friday from 9 am to 5 pm. Library [services](#) are available in full to New Jersey state employees. The general public may use the collection by [e-mail appointment](#).

<http://nj.gov/transportation/refdata/library/>