

Understand and analyze road roughness and the effects of pavement maintenance with [www.IRIExplorer.com](http://www.IRIExplorer.com).

### ***Why use the IRI Explorer?***

- \* Road roughness is crucial to vehicle fuel efficiency, truck and auto maintenance, and highway maintenance schedules. IRI Explorer helps you explore the Federal Highway Administration's Long Term Pavement Performance data, which contains decades of data about road roughness.
- \* Compare how different pavement types perform in your state or similar climate regions with the Pavement Comparison tool. This feature graphs trends in the data, based on selected criteria.
- \* Use the Emissions Estimator to help determine the greenhouse gas emissions associated with scheduled roadway maintenance.

### ***Quick Start***

**Pavement Comparison:** Create comparisons of the performance of different pavement types and subtypes. These evaluations can be limited to specific climate regions, ESAL ranges, and other user-selectable variables. Make context-specific queries to review how a proposed pavement may perform, based on historical data.

- 1.) Go to [IRIExplorer.com](http://IRIExplorer.com). On the left navigation bar, click on "Pavement Comparison."
- 2.) Select two main primary pavement types to compare, say AC and CRCP.
- 3.) Add filters for your comparison (e.g., climate region) and check the box labeled "Limit to Climate Region." then select the desired climate (e.g., wet freeze). Make sure the checkbox is selected.
- 4.) After selecting "Generate Graph," the initial IRI, rate of change of IRI, and average time to intervention are displayed and ready to compare.

Note: If too many filters are applied, there may not be enough data points to make a statistically valid comparison. Watch the number of pavements in your dataset by looking at the "First Type" and "Second Type" totals at the upper right of the page.

**Emissions Estimator:** The Emissions Estimator tool allows reviewers to construct and benchmark greenhouse gas (GHG) emissions over a pavement's life cycle, including both the construction and use phases. Use the annualized emissions to compare pavements with very different life cycles and maintenance strategies.

- 1.) Fill in the four fields (roadway speed, ADT, length in miles, and number of lanes) in the "General Information" section.
- 2.) Next, input the initial construction event. Select R1 for the job and select the type of repair work underway. The Intervention Year is "1". Enter the length of time needed for the initial project build as the Project Duration. Finally, click "Add Intervention."  
Repeat step two, selecting M1, M2, R1, or R2 depending upon the scheduled maintenance activities and intervals for the project. Fill in the



## Quick Start Guide

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Job, Job Type, Year, and Duration fields. Click “Add Intervention” to update the graph. Repeat until all the construction events in the roadway’s life cycle have been entered. (Remember to click “Add Intervention” each time you add an event.)

- 3.) Analyze the graph and table for emissions associated with each event, the use phase, and the annualized emissions.