

rail operations benefits



CREATE Rail Operations Benefits Summary

In 2011, the CREATE Partners updated and reran a Rail Traffic Control (RTC) simulation model of Chicago's freight and passenger rail network and used it to evaluate the benefits of the projects completed to date as well as the future benefits anticipated by completing all the freight and passenger rail projects in the CREATE Program. This new simulation run took into account a number of changes since the model was initially run in 2003, including increases in Metra and Amtrak passenger rail volumes and changes in freight rail volumes and routings¹.

The simulation provides data on the amount of delay experienced by trains running through the system, which results from capacity constraints and inadequate infrastructure. Delay (the time trains are stopped waiting for a clear route to proceed ahead) is measured in minutes per 100 train miles, a typical freight rail measurement. To put this measure in context, if it takes a train 2 ½ hours (150 minutes) to travel 100 miles with no delay, but a particular train incurs 30 minutes of delay to travel that 100 miles, the total time required by that train to make the trip would be 180 minutes, and 20 percent of that train's total travel time would be delay.

Sixteen CREATE rail projects have been built or are under construction as of 2011. **The simulation showed the investment in CREATE to date has resulted in a 28 percent reduction in freight rail delay and 33 percent reduction in passenger delay compared to the system if no CREATE projects were built.** Freight delay with the 16 projects is 46 minutes per 100 train miles, an improvement of 19 minutes of delay per 100 train miles compared to the no-build case. Passenger delay decreased from 0.9 minutes to 0.6 minutes per 100 train miles. **Yet, if no further CREATE improvements are made beyond the initial 16 projects, Chicago's rail system will face significant future problems.** Freight delay in 20 years with only the current 16 funded projects is forecast to increase from 46 to 143 minutes per 100 freight train miles, an unacceptable level of delay for most shippers. For passengers, if no additional CREATE projects are built, delay will increase fivefold, from 0.6 minutes to 3.1 minutes per 100 train miles.

If all CREATE projects are built, in 20 years, freight delay would be reduced by 50 percent, to 76 delay minutes per 100 train miles. **Passenger delay under the full-build scenario would be reduced by two thirds,** with delays reduced from 3.1 minutes to 1 minute of delay per 100 train miles. The simulation model takes into account only CREATE freight and passenger rail projects; it does not address the highway-rail grade separation projects (as their benefits are to highway delay reduction, not rail operations). For full Simulation Modeling results please see the report at: http://createprogram.org/tiger3_files/Simulation_Modeling.pdf.

¹ Due to the CN acquisition of the EJ&E rail line and the planned rerouting of all CN trains to the EJ&E which is outside of the area modeled, all CN trains were removed from the simulated future conditions; however CN trains were included in the base case for comparison purposes with the 2003 simulation. Rail count data for 2009 was used in the simulation.