

WHY “FAST TRACK FIX IT FIRST” PROJECTS ARE A BETTER STIMULUS

Gary Toth¹

Summary

This short report explains why “Fast Track Fix it First” projects are a better investment of stimulus funds than other road-based projects, such as capacity increases or process intensive projects like major road rehabilitation or replacement.

This report first defines “Fast Track Fix it First” projects, and distinguishes them from other types of road projects. It then describes 10 reasons why “Fast Track Fix it First” projects work so well as an immediate stimulus.

Fast Track Fix it First projects create more jobs, faster; they are also more labor intensive than other projects, use man power that can be quickly trained, and can be easily staffed by state employees. With Fast Track Fix it First projects, more money enters the economy faster because funds are not held up in plan creation, or spent on buying land or expensive equipment. Almost all preservation and short-term resurfacing can be completed in a season, whereas other highway funds spend out slowly with typically 27% of a project completed in the first year. With Fix it First projects, money gets pumped into local economies faster and is spread across the state more evenly so that construction investments are shared across the state, rather than being concentrated on a few large projects.

Fast Track Fix it First projects are also good long-run investment, as proactive repairs cost only 1/6 to 1/14 as much as reconstruction once a road has fallen into complete disrepair.

What is Fast Track Fix It First?

In order to highlight the advantages of Fast Track Fix it First, it is necessary to distinguish it from other potential projects. It is also necessary to correct some misconceptions about how states may use federal funding.

The term *Fast Track Fix it First* is coined here to distinguish Fix it First projects that can be delivered quickly (generally in one construction season) from those that involve more process and time. The *Fast Track Fix it First* includes Routine Maintenance, Preventative Maintenance, and Minor Rehabilitation. Each of these generally does not require a right of way purchase. Projects are usually generated from a Department of Transportation’s asset management systems (e.g. pavement management or bridge management) and/or inspection reports and, with minor assessment and processing, go directly to construction.

Contrary to a widely held misconception, Preventative and Minor Rehabilitation types of maintenance ARE eligible for federal funding. Only Routine Maintenance is NOT eligible.

¹ Former Director of Project Planning and Development, New Jersey Department of Transportation.

For definitions of other types of potential road projects, please see “Definitions” at the end of this report.

Benefits of Fast Track Fix it First projects versus capacity increases or other process-intensive projects

1. ***More labor intensive, less money is spent on expensive equipment and property acquisition than for Capacity or capital Projects.*** A 2004 STPP Report, based in part on data from FHWA, found that for every \$1 billion spent on highway capacity projects, over \$100 million was spent on land acquisition.
2. ***More money gets into the economy faster.*** If 100 maintenance projects are all to be completed in a year, then at least 3x as much money will get spent in year 1 than an equivalent 10 capital projects spread out over a 3-year completion time. FHWA also states that, “... with the exception of short-term resurfacing and preservation projects, highway funds spend out slowly, with only 27% of a project, on average, outlaying in the first year.”
3. ***More money goes into usable infrastructure.*** As noted, property acquisition (right of way) costs consume, on average, over 10% of capital project costs. In urban areas, right of way costs are much higher and can approach 50% of construction.

Furthermore, Fast Track Fix it First focuses exclusively on the components of the infrastructure that are needed to be addressed to maintain proper function of the assets (*e.g.* a section of guiderail, a bridge joint, a culvert, a pothole, *etc.*) rather than on capital construction which typically upgrades all components whether it’s needed or not, thus incurring much higher material costs and environmental impacts. Capacity increase projects, especially road widenings, involve even more “radiated costs.” To accommodate the widening—bridges, drainage, utilities and other assets that were not in need of repair or replacement—must be rebuilt. These costs are usually buried in Capacity increase costs estimates and some DOTs resort to classifying them as fix it first.

4. ***Fast Track Fix it First saves money over the life cycle*** of an asset. The cost of making repairs proactively is between 1/6 and 1/14 the cost of waiting for assets to fall into a state of disrepair, requiring major capital construction intensive repairs. Preventative maintenance also typically doubles the service life of the asset compared with not performing these activities. About a decade ago, states began to figure this out, and moved away from the “worst first” investment approach.
5. ***Fast Track Fix it First is good politics*** in that it spreads the money around the state. Capital and, particularly “capacity increase” projects, involve concentrated investments in a few locations. The more the state spends on capital projects, the smaller the number of projects and the less construction gets spread around the state.

In addition, it makes more sense to give local elected officials something now (send out the crews) than to continue to promise that some day, somehow, they will get the big project at the end of the rainbow that will solve all their traffic problems.

6. ***Much faster time project delivery*** time from inception to construction. Capital projects usually take 2 to 3 years to design, often require ROW acquisition adding another 1 to 2 years, with the final projects taking an additional 1, 2 or even 3 years to construct. The

more complex Capacity projects usually require time-consuming environmental studies, which can take decades, but at a minimum, at least 3 to 5 years. Also, since capital projects are more expensive to program for design, ROW and construction, the above mentioned phases often do not proceed in sequence, adding additional time to reach implementation. Finally, projects costs continue to rise with inflation.

7. ***Fewer soft costs*** associated with preparing the project for construction. As noted above, capital projects need to go through full design. Engineering costs can approach 1/3 of the total cost of construction, particularly if the project involves a lot of structures. Furthermore, capital projects require environmental processing which can get very expensive, especially for those projects involving a major capacity increase.

On the other hand, routine maintenance requires little or no environmental processing and generally little or no project specific plan preparation (done in “batches”).

8. ***Manpower can be trained much more quickly.*** It takes little training and expertise to wash or paint a bridge, or to operate crack sealing equipment.
9. ***Fast Track Fix it First spreads construction investment out*** among many more small projects, which means the industry can ramp up more quickly to increased investment levels. There are far fewer contractors with the equipment and expertise to mobilize and construct a major capital project than can handle routine maintenance. Unleashing too many of them at the same time will tax the ability of the industry to react and will likely cause project costs to escalate, maybe even skyrocket. Fix it First also creates more opportunity for smaller and more local contractors and more opportunities for Minority Business Enterprise/Women-owned Business Enterprise/Disadvantaged Business Enterprise firms.
10. ***State staff are better equipped to undertake Fast Track Fix it First,*** which preserves jobs, helps keep costs down, and allows more money to be directed to the repair itself. The advantages of state-run maintenance include:

- A workforce trained specifically to do highway and bridge maintenance work as opposed to general purpose contractors;
- This workforce becomes intimately familiar with the needs of “their” infrastructure as they are permanently located at established bases close to the infrastructure they maintain;
- They are cheaper than contractors who pay taxes, charge a profit, and have steep mobilization costs;
- When the system is working right, maintenance crews “own” their facilities and take care of them in a way that contractors hired to do specific projects at specific locations will never do.

Definitions

1. *Routine Maintenance.* Work that could be done by in-house maintenance staff or “on call” or batch type outsourcing and does not improve the life of the infrastructure. Examples include snow removal, striping, mowing, litter pickup, lighting repairs.
2. *Preventative maintenance.* Work that could be done by in-house maintenance staff or “on call” or batch type outsourcing, which improves the life of the infrastructure. This work generally requires no project specific plans, but rather can be implemented via batch contracts based on standard plans, specifications and estimates. Examples of preventative maintenance:
 - a. For pavements: crack sealing, liquid asphalt treatments, single course overlays and drainage maintenance (culvert cleaning, culvert repairs, and ditch cleaning).
 - b. For bridges: washing, painting (particularly girder ends at joints), deck sealing, bearing lubrication, joint replacement, bearing replacement, steel and concrete repairs.
3. *Minor rehabilitation.* Includes overlays, straight resurfacing (e.g. mill two pave two) and bridge deck rehab or replacement.
4. *Process intensive major rehabilitation or replacement projects.* These are fix it first projects that require development of project specific plans to be implemented. They include bridge replacement, drainage system overhaul, roadway reconstruction, etc. They almost always require ROW and often require permits and other environmental processing. They often cannot be completed in one construction season, especially if a bridge is involved. They usually require complex and disruptive multi-stage construction.
5. *Capacity increase projects.* “Capacity increase” is a term of art, and the term can be manipulated to suit various purposes. A capacity increase could be defined as any instance where lanes are added, whether they are at intersections or along the mainline of a roadway. DOTs however have been creative in naming categories so as to minimize the amount classified as “capacity increase”. Thus, there are projects on the Stimulus lists and in capital programs defined as “Intersection improvements” or “Addition of Auxiliary Lanes”, which increase capacity and add lanes, but which are called hot spot projects (intersections) or safety improvements (auxiliary lanes). Also, bridge replacement and some roadway safety projects often provide for additional lanes, but are classified under the program that they are funded under. So the dilemma becomes what to call a project that, for instance, uses bridge funds to replace a highway bridge and also adds lanes “while they are at it”.

Capacity increases are often made in the name of safety or operations. For example, many freeway interchange projects upgrade interchanges to increase spacing between ramps, or lengthen acceleration and/or deceleration lanes, etc. While it can be fairly stated that there are safety considerations at play in these instances, these types of investments also increase capacity. When one reads a project justification that cites improvements in levels of service or reduction of queues, it is a sign that there is a capacity component to the investment.