

I. Executive Summary

During the summer and fall of 2005, the Missouri Department of Transportation's (MoDOT) proposal to completely rebuild the existing Highway 40 into The New I-64 through the heart of St. Louis County and St. Louis City met with significant public opposition. Citizens were particularly distressed over the potential for a total closure of the existing facility to accommodate the proposed project. St. Louis County Executive Charlie A. Dooley established a Task Force of concerned citizens – collectively representing the entire county - to analyze the options available for accommodating the large volume of traffic to be diverted from Highway 40 during construction of The New I-64.

The Task Force was assembled by appointment of four citizens “at large,” and seven other concerned citizens, each representing one of the seven County Council districts. In addition, County Executive Dooley invited the Central County municipalities most directly affected by The New I-64 project to participate in an Administrative Management and Oversight Committee (AMOC). This committee was composed of professional staff, city administrators or public works directors from each community. Each was charged by his or her respective city to offer suggestions and establish options for traffic handling during the course of the project.

St. Louis County's Department of Highways and Traffic provided staff support for both the Task Force and AMOC to assure continuity of the study and provide adequate resources to complete the study. In turn, Highways and Traffic hired a consultant, T-Concepts, to provide detailed statistical and mathematical modeling of the systems, options, and proposals as suggested by the Task Force and AMOC.

The final product of this study - this report - is the Task Force's creation, with the generous support and help of AMOC and Highways and Traffic staff.

The Task Force determined to reveal the critical components of a traffic handling strategy for mid-county roads by specifically reviewing three distinctly different alternative strategies:

- The '1-1' Alternative (Alternative #1). In this case, the existing Highway 40 facility was used to carry one lane of traffic in each direction (east and west) but with no internal access points. This proposal had the distinct advantage of carrying travelers on the long haul from west St. Louis County to downtown St. Louis with minimum disruption. Its obvious drawback was the severe restrictions on motorists' ability to enter or leave I-64 within the construction corridor.
- The '2-2' Alternative (Alternative #2). In this case, two lanes would remain open in each direction throughout the construction area and throughout the

duration of the project, with full access maintained at all available on/off ramps. This alternative was the immediate suggestion of the municipalities along the construction area. Its obvious advantage appeared to be keeping more traffic on Highway 40 during the construction period. The immediate disadvantage was the apparent difficulty in achieving this standard while still building The New I-64 project within four years and for less than \$535 million – the schedule and budget established by MoDOT and supported by County Executive Dooley.

- Finally, the Task Force proposed a third alternative: ‘3-0’ (Alternative #3). In this case, there would be a minimum of three lanes open in one direction, with full access to secondary roads. However, Highway 40 would be completely closed to traffic in the opposite direction. Alternative #3 possessed the apparent advantage that half of the highway’s traffic can still use the current facility while the other half of the system is reconstructed. Half of I-64’s traffic – or, stated another way, *only* half of any commuter round-trip would be affected by The New I-64 project. The Task Force’s initial interest in this alternative was matched by the potential to designate a surface street as a detour route to carry the bulk of traffic that could no longer be carried on the part of the roadway closed for reconstruction. Further analysis indicated that the designation of a single alternate route may not be required and that the most attractive alternate (Clayton Road) would have a dramatic and detrimental effect on the communities it serves. The Task Force removed the opportunity to provide a single one-way detour from this alternative.

After careful consideration, the Task Force concluded that Alternative #3 had the greatest overall value to the community. This alternative had the distinct and direct advantage of diverting less traffic during peak periods (AM and PM) to surface streets. This advantage was substantial. The expected diversion from the existing Highway 40 to surface streets was 25 percent less for Alternative #3 than for Alternative #2 – or 1,000 cars per hour in both the AM Peak and the PM Peak traffic hours. Alternative #1 diverted twice as much traffic as Alternative #3.

Alternative #3 offered the additional benefit that it appeared to fully support the cost and schedule constraints established by MoDOT and supported by County Executive Dooley in his charge to the Task Force. This strategy had most of the constructability advantages of a full closure. Although the construction team would have only half of the existing roadway to work on at a time, this would be sufficient to allow unimpeded access for equipment, materials staging, and safe progress. At the same time, half of the old Highway 40 could be used by the traveling public during the project’s first stage and the other, newly constructed half could be used by the public during the project’s second stage. Alternative #2 did not appear to be buildable within the schedule and budget constraints of

the project. Our best estimates for Alternative #2 exceeded five to six years and \$600 million.

For Alternative #3 to be operational, the Task Force had to establish that there existed sufficient opportunity to travel on other roadways in the direction that would be closed. A detailed study area simulation of the community between Olive Boulevard on the north and Manchester Road on the south was developed. This area was divided into four origin/destination quadrants to account for each potential traveler's demand for trips. The staff developed a potential allocation of all the diverted trips during the peak hours to account for every destination in and out of the study area. Based on this potential allocation of the trips to existing roadway capacities, the staff's consultant determined the impact on travel times within the study area.

The conclusion of the impact analysis was that Alternative #3 was not only feasible but highly desirable. The full closure of one direction of flow on the highway would allow broad, easy communication of the traffic handling conditions. During Phase 1 (all west bound lanes closed), drivers in St. Louis City who wanted to go west could be alerted well in advance that Highway 40 is closed and that they must use alternate routes. There would be no need for drivers to test an open but restricted highway that would result in an inevitable traffic jam and the emotional turbulence such congestion generates. I-44 and I-70 are easily accessible for long trips. Shorter trips into Clayton, University City, or Richmond Heights could use Forest Park Parkway.

The Task Force also determined that Alternative #3 was not *the* only plan to satisfy the demands of the public as well as the requirements for a safe and efficient construction project.

Indeed, the City of St. Louis – in a study by Massachusetts consultant Cambridge Systematics, Inc. – considered The New I-64's implications on its own economic and transportation interests. The city's study reviewed traffic management options very similar to the County Task Force's Alternatives #1 and #2, and concluded that Alternative #2 was superior – a conclusion with which we fully agree. However, our Task Force expanded its scope of inquiry to include another potential traffic management plan.

The recommendation of the Task Force is that MoDOT and the selected Design-Build construction team use this third option, the '3-0' strategy, to develop an aggressive Maintenance of Traffic (MOT) plan. "The Plan" should use all the assets and capacities of the region to complete the job quickly while stopping short of any long duration, full closure of the existing roadway. However, a plan that closes half the road at a time *could* be made to work. This proposal should be considered a baseline and reference point for "The Plan" to be developed by the Design-Build construction team.