
APPENDIX G Scope of Work

The following is the project's scope of work.

MEMORANDUM

DATE February 20, 2003
TO Transportation Planning and Programming Committee
of the Boston Metropolitan Planning Organization
FROM Arnold J. Soolman, CTPS Director
RE Work Program for: Route 28 (McGrath Highway) Corridor
Transportation Management Plan, Somerville

ACTION REQUIRED

Review and approval

PROPOSED MOTION

That the Transportation Planning and Programming Committee of the Boston Metropolitan Planning Organization vote to approve the work program for Route 28 (McGrath Highway) Corridor Transportation Management Plan, Somerville, in the form of the draft dated February 20, 2003.

PROJECT IDENTIFICATION**Unified Planning Work Program Classification**

Location- and Site-Specific Projects

CTPS Project Number

22116

Client

Boston Metropolitan Planning Organization

CTPS Project Supervisors

Principal: Efi Pagitsas

Manager: Mark Abbott

Funding

MHD SPR Highway Planning Contract #33097

IMPACT ON MPO WORK

The MPO staff has sufficient resources to complete this work in a capable and timely manner. By undertaking this work the MPO staff will neither delay the completion of nor reduce the quality of other work in the UPWP.

BACKGROUND

A request for this study from the City of Somerville came to the attention of the Transportation Planning and Programming Committee during the preparation of the Boston MPO Fiscal Year 2002 Unified Planning Work Program (UPWP). In that letter, Somerville officials identified a number of reasons for the MPO to fund a study, including to:

- Improve vehicular, pedestrian, and bicycle safety
- Assess projected travel demand resulting from future growth
- Identify transportation issues and make improvement recommendations
- Ensure that economic development in the corridor has positive impacts on quality of life
- Evaluate potential bicycle and pedestrian connections
- Improve accessibility across the corridor

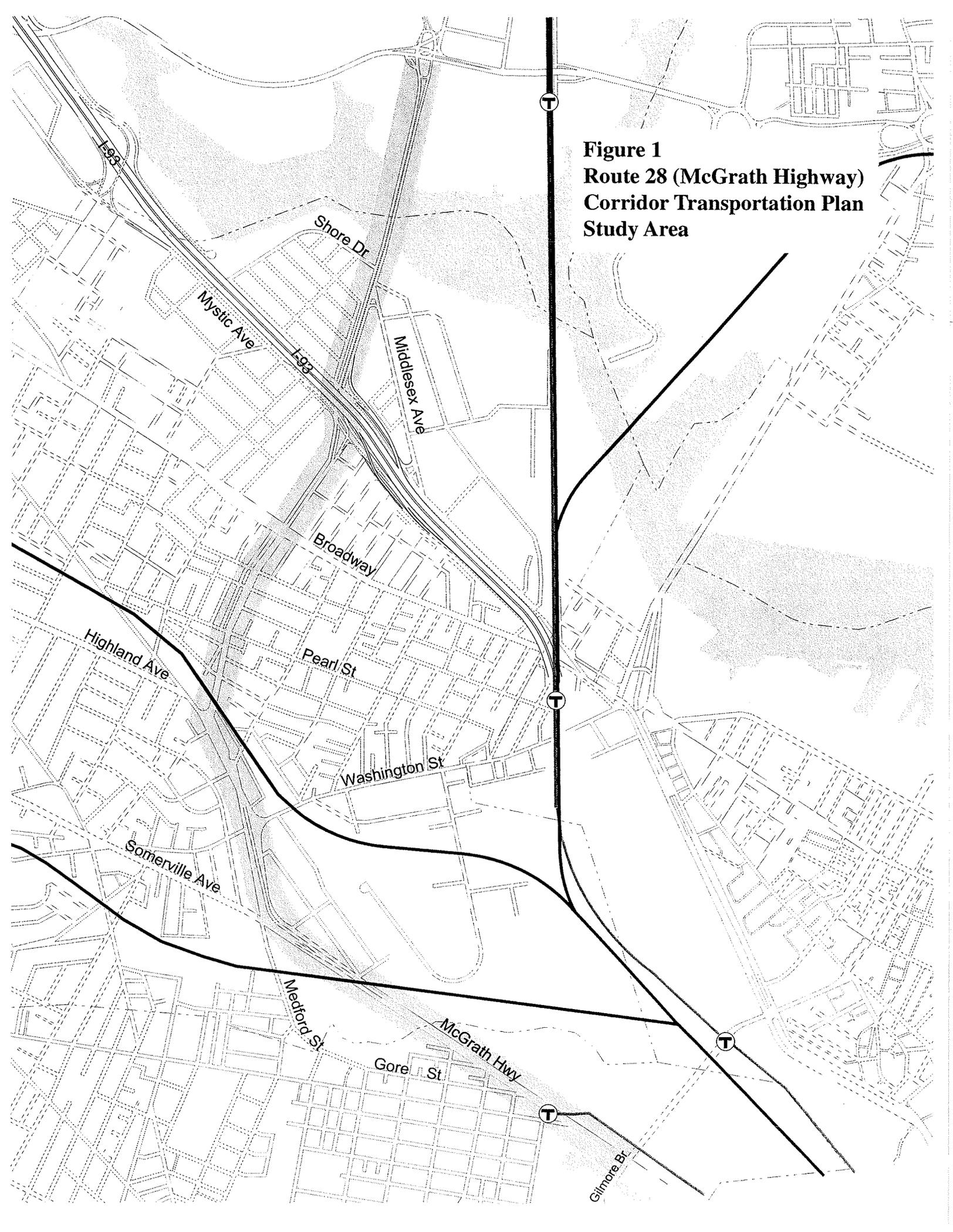
Route 28 is a principal arterial under the administration of the Metropolitan District Commission. In the northern part of the Boston MPO region, it runs from the region's boundary at North Reading to the City of Boston. The study corridor through Somerville is approximately two miles long, beginning south of Wellington Circle (Route 16) in Medford and ending at the intersection of Land Boulevard/Charlestown Avenue in Cambridge (see Figure 1). In this two-mile segment, the posted speed limit is 30 or 35 miles per hour.

From preliminary reconnaissance and a series of travel time runs performed during the spring of 2001 as part of the ongoing Congestion Management System (CMS) process, most of Route 28 in Somerville was found to be congested during peak hours, and motorists are experiencing slow speeds and delays. Two segments are particularly congested during the AM and PM peak hours: Highland Avenue to Broadway, and Assembly Square entrance to Wellington Circle. These segments showed average peak period speeds between 11 and 15 miles per hour.

Route 28 is a major commuter corridor carrying traffic from the north of the region to a multitude of destinations, including points in and through the City of Boston. It also serves as an alternative to I-93, especially when freeway traffic is backed-up due to traffic incidents. Main connections with I-93 include Interchanges 29 (I-93 at Route 28) and 30 (I-93 at Route 38, Mystic Avenue). Average Daily Traffic (ADT) varies by segment between 40,000 and 65,000 vehicles.¹

¹ 2001 Massachusetts Traffic Volumes, MassHighway.

Figure 1
Route 28 (McGrath Highway)
Corridor Transportation Plan
Study Area



The corridor has been under considerable redevelopment in recent years. Examples of ongoing and anticipated developments impacting Route 28 are: in Medford, Telecom City; in Somerville, the redevelopment of Assembly Square, Stop and Shop Supermarket at the old Somerville Lumber site, Internet Center at Inner Belt Road, Twin City Plaza expansion; in Cambridge, North Point development near the Gilmore Bridge and a proposed hotel near Water Street. Mitigation from these developments and other transportation improvements planned or under study include access and traffic operational improvements, the feasibility of a new Orange Line station at Assembly Square, intersection improvements at Pearl Street and Broadway, the development of the Somerville Community Path to Lechmere, and others. Other ongoing and potential studies related to this corridor that will be considered in this study include the Executive Order 418 Study for Somerville and the Massachusetts Bay Transportation Authority's Urban Ring project, its Program for Mass Transportation and Green Line Extension.

Through regular meetings with a Route 28 Corridor Advisory Committee, a study advisory committee that will soon be formed, the CTPS study team will add to its knowledge of planned roadway improvements and development projects, and of city officials' and community representatives' vision for the redevelopment and physical characteristics of this corridor. Roadway projects that are currently underway or committed mitigation will be included as "given" improvements. This study will not seek to revise or otherwise delay already committed projects. Expected participants in a Route 28 Corridor Advisory Committee are: Somerville, Medford, and Cambridge city officials, planners, and engineers; staff from MassHighway District 4 and the Metropolitan District Commission (MDC), the Metropolitan Area Planning Council (MAPC), and Chambers of Commerce; and neighborhood, business, and other interested parties.

The purpose of this study is to develop a transportation plan for Route 28 that considers development proposals, including their impacts and their mitigation. The plan would also recommend additional strategies and measures that coordinate seamlessly with improvement opportunities from public and private investment so that safety and mobility are enhanced and negative traffic and other impacts are minimized.

GOALS & OBJECTIVES

The goals of this study as outlined in the UPWP are to:

- Evaluate the collective impact of proposed developments on the Route 28 Corridor.
- Develop strategies for addressing these impacts in a comprehensive fashion to decrease congestion and improve safety.
- Develop strategies for increasing the attractiveness of this corridor for pedestrian, bicycle, and transit services.
- Identify improvements needed to ensure that responsible development is sustainable in accordance with each affected community's land use plans.

Towards achieving these goals, the primary objective of the study will be to *create a Route 28 Corridor Transportation Management Plan. This plan will coordinate current and planned roadway improvement projects to accommodate expected development and traffic growth. The plan will also evaluate and recommend improvements for pedestrian and bicycle facilities and for public transportation.*

In order to achieve the stated primary objective, the study team and the Advisory Committee will focus on the following areas:

1. Vehicular, pedestrian, and bicycle safety
2. Travel demand resulting from future growth
3. Transportation issues that need to be overcome
4. Economic development impacts on quality of life
5. Bicycle and pedestrian connections
6. Accessibility (connections) across the corridor
7. Urban design/aesthetic improvements and potential landscaping along the corridor

Consideration of these seven focus areas will facilitate the development of a transportation plan which will enable the Route 28 corridor to become appropriately designed to accommodate through and local traffic and the needs of bus, bicycle, and pedestrian modes over its entire length, from south of Wellington Circle in Medford to Land Boulevard/Charlestown Avenue in Cambridge. The objectives may be revised during the ongoing public process, within the limits of the existing budget.

WORK DESCRIPTION

Task 1 Route 28 Corridor Advisory Committee and Other Public Participation

Establish contacts with the Somerville, Medford, and Cambridge city planners, engineers, and community and economic development officials, as well as Metropolitan District Commission and MassHighway District 4 staff. At the recommendation of the city officials, the appropriate state senator(s) and Representative(s) may be notified of the study, as well as neighborhood, business, and environmental groups. It is expected that these individuals/groups from the three communities will form the core of a Route 28 Corridor Advisory Committee (CAC) that will provide feedback on the study's findings and progress. A meeting will be scheduled even before the study begins to introduce all the parties, to describe the study's purpose, as well as to receive input in order to finalize this work program. Additional meetings with the Committee will be held as needed. This includes instances where CTPS needs comments or input from the Committee on data and analyses issues, when a task is completed and a presentation is due, or when the Committee requests a meeting for study-related reasons.

There will also be two public meetings, the first to introduce the study to the public and solicit citizens concerns, perceptions, and visions of the corridor. The second public

meeting will be held prior to the completion of the draft study report. During this meeting, CTPS will present to the public the study's preliminary findings and recommendations, and will request citizens to comment on the findings and recommendations prior to the issuance of the draft study report.

Product of Task 1

The formation of, and continuous coordination with, an advisory body comprised of key officials from Somerville, Medford, Cambridge, MassHighway, MDC, MAPC, and other relevant parties. Other products of this task include preparing presentation material for the Committee and the two scheduled public meetings.

Task 2 Create an Inventory of Safety and Transportation Concerns, Planned Roadway Improvements, and Land Developments

Subtask 2.1 Transportation Concerns

Through meetings with the Advisory Committee, CTPS will develop a full understanding of the transportation concerns in the Route 28 corridor. Included in the list of concerns could be congested intersections (signalized and unsignalized), areas with high collision rates, issues with public transportation service, and segments in need of improved bicycle and pedestrian facilities.

Subtask 2.2 Transportation Improvements

By coordinating with Somerville, Medford, and Cambridge planners and engineers, and personnel of the Massachusetts Environmental Protection Act (MEPA), MDC, and MassHighway, CTPS will develop an inventory of recent, ongoing, and planned transportation improvements for Route 28 and the vicinity. These improvements include public projects and private development mitigation. Instrumental in providing this information will be developers and their consultants, the Transportation Improvement Program (TIP), and local traffic studies.

Subtask 2.3 Development Projects

All recent and proposed development projects in the corridor will be considered. It is likely that this information will come from city planners, community development specialists, and environmental impact reports (EIRs).

Product of Task 2

A technical memorandum summarizing transportation and safety traffic concerns as they relate to Route 28 as well as recent, ongoing, and planned roadway improvements and development projects in the corridor.

Task 3 Collect Corridor Transportation-Related Data

Subtask 3.1 Reconnaissance

In order to understand traffic conditions in the corridor, CTPS will collect information on intersection geometrics, traffic signal operations, bicycle and

pedestrian facilities (sidewalks, crosswalks, pedestrian signals, disability ramps, etc.), posted speed limits, bus stops, parking restrictions, and desire lines across the corridor. The desire line reconnaissance will include vehicle, bicycle and pedestrian movement across the corridor.

Subtask 3.2 Traffic Counts

Traffic counts such as peak period manual turning movement counts (TMCs) and 24-hour automatic traffic recorder (ATR) counts on Route 28 will be gathered from recently (within the past two years) completed area traffic studies, EIRs, and local counting programs. Wherever possible, count data will be compared with older information at key locations in order to observe trends in traffic growth. If necessary, additional important locations may have to be counted if data is unavailable. A measure of peak hour queue lengths at some intersections, as well as the proportion of truck traffic, may also be obtained through field work.

Subtask 3.3 Vehicle License Plate Survey

An origin-destination sample study of the traffic using Route 28 may be undertaken if the Committee finds it to be useful to the overall study. CTPS will perform a license plate study at a key location(s) along the corridor, most likely during the morning peak period. This study, coupled with vehicle destination information from the regional model of the Boston Metropolitan Planning Organization (MPO), will help to determine whether and how a portion of the traffic using the corridor may be served through other routes and/or transportation modes.

Subtask 3.4 Vehicle Crash Data

Available crash data by frequency, type, and severity are often available from existing traffic studies and EIRs. MassHighway also generates a "High Accident Locations Listing" for the region. That list will shed light on which Route 28 intersections are particularly prone to vehicle collisions. It is hoped that these data, combined with field work, will yield information on locations with particularly unsafe traffic operations in the corridor, as well as some of the causes of the high number of collisions. Investigation of the data will also try to determine if there are locations where there are a number of crashes between vehicles and pedestrians and/or bicycles.

Subtask 3.5 Travel Time Runs

Travel time runs were performed recently for the Route 28 corridor as part of the Boston MPO's Congestion Management System (CMS) process. These data will be helpful in identifying those sections where traffic flows smoothly as well as those where traffic is congested.

Product of Task 3

A technical memorandum summarizing all transportation services, pertinent traffic data, and traffic patterns in the corridor, and including traffic flow maps.

Task 4 Review Development Mitigation Projects and Other Planned Roadway and Transit Improvements

Review the roadway and development projects identified in Task 2 in order to answer the following:

- Where are various planned development mitigation projects located along the corridor, what are they, and how do they fit in relation to each other from a physical, operational, and chronological point of view?
- In addition to the planned projects, what other problematic locations (gaps) exist that need attention, i.e., segments of Route 28 that need to be improved for seamless traffic flow, pedestrian, and bicycle circulation?
- Based on the Advisory Committee's vision for Route 28 regarding safety, mobility, traffic, pedestrian and bicycle flow, economic development, and other roadway characteristics, what types of improvements would be appropriate?
- Identify and coordinate with, if possible, planned transit improvements along corridor and surrounding area. Examples are the Urban Ring, Green Line Extension, and the new Orange Line Station at Assembly Square.

Product of Task 4

A technical memorandum discussing how proposed transportation projects in the Route 28 corridor "fit" into each other and what other locations/services exist in the corridor that are in need of attention so that each set of improvements will dovetail with another set of improvements physically, operationally, and chronologically.

Task 5 Develop Traffic Forecasts and a Transportation Plan

Based on the review in Task 4, a transportation plan of roadway improvements will be developed for the corridor.

Subtask 5.1 Traffic Forecasts

In order to test the sufficiency of proposed roadway and other improvements within the plan, future-year traffic projections are required. CTPS will therefore develop traffic volumes for a short-term horizon year and a long-term horizon year (most likely 2025). The short-term horizon year will be defined based on the near-future likely occupancy date for the majority of the developments that are anticipated along the corridor, especially at Assembly Square. The regional transportation model will be utilized to provide the long-term horizon year projections.

Subtask 5.2 Route 28 Corridor Transportation Plan

This plan will take into account all transportation and development projects scheduled to be implemented on or near Route 28. There will also be an effort to anticipate possible, but not yet scheduled developments, potentially occurring further into the future. The plan will look at the approximately two-mile corridor as a system, and it will address vehicle, pedestrian, bus, and bicycle circulation. Additionally, potential urban design/aesthetic and landscape improvements will be

investigated and included in plan. The plan will not include determining what potential zoning changes or land uses will be appropriate and beneficial for the corridor.

The end result will be a plan of coordinated transportation improvements that the Advisory Committee will review and comment upon. The plan will identify short-range versus long-range improvements and assign priorities to them. If called for, a phased implementation plan for the improvements will be developed.

Product of Task 5

A technical memorandum describing a plan of comprehensive transportation improvements in the Route 28 corridor presented both in written and conceptual design formats. It will be based on a consensus of the Advisory Committee as to the plan's continuity, priorities, and uniformity.

Task 6 Documentation and Review

CTPS will document all project tasks in a report which will be reviewed by the Committee.

Product of Task 6

A report documenting Tasks 1 through 5.

ESTIMATED SCHEDULE

It is estimated that this project would be completed 20 months after the notice to proceed is received. The proposed schedule, by task, is shown in Exhibit 1.

ESTIMATED COST

The total cost of this project is estimated to be \$199,777. This includes the cost of 97.0 person-weeks of staff time, overhead at the rate of 94.40 percent and travel. A detailed breakdown of estimated project costs and schedule are presented in Exhibit 2.

AJS/MSAEP/ep

Exhibit 2
 ESTIMATED COST
 Route 28 (McGrath Highway) Corridor Transportation Management Plan

Direct Salary and Overhead \$199,277

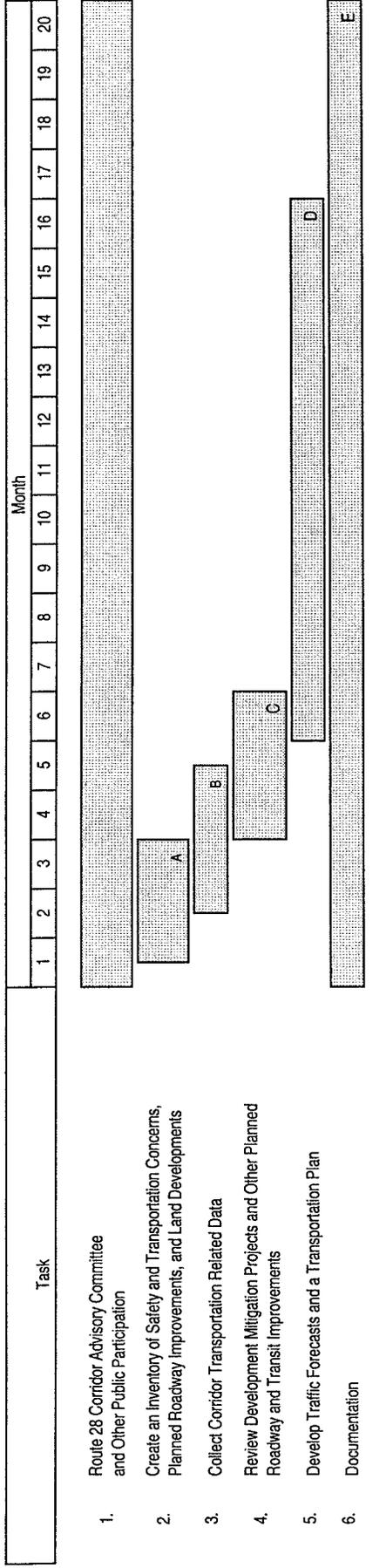
Task	Person-Weeks						Temp	Total	Direct Salary	Overhead (@ 94.40%)	Total Cost
	M-1	P-5	P-4	P-3	SP						
1. Route 28 Corridor Advisory Committee and Other Public Participation	1.0	0.5	6.0	0.0	0.0	0.0	7.5	\$8,563	\$8,083	\$16,646	
2. Create an Inventory of Safety and Transportation Concerns, Planned Roadway Improvements, and Land Developments	1.0	4.0	6.0	3.0	2.0	0.0	16.0	\$17,200	\$16,237	\$33,437	
3. Collect Corridor Transportation Related Data	0.5	2.0	4.0	2.0	0.0	3.5	12.0	\$11,395	\$10,757	\$22,152	
4. Review Development Mitigation Projects and Other Planned Roadway and Transit Improvements	1.0	2.0	8.0	6.0	0.0	0.0	17.0	\$18,021	\$17,012	\$35,033	
5. Develop Traffic Forecasts and a Transportation Plan	2.0	6.0	14.0	5.5	4.0	0.0	31.5	\$33,359	\$31,491	\$64,849	
6. Documentation	1.0	2.0	8.0	0.0	2.0	0.0	13.0	\$13,971	\$13,189	\$27,160	
Total	6.5	16.5	46.0	16.5	8.0	3.5	97.0	\$102,509	\$96,768	\$199,277	

Other Direct Costs \$500

Travel	\$500
Equipment	\$0
Consultant(s)	\$0
or interesting, however.	\$0

Total Costs **\$199,777**

Exhibit 2 cont.
ESTIMATED SCHEDULE
Route 28 (McGrath Highway) Corridor Transportation Management Plan



Products/Milestones

- A: Technical memorandum no. 1
- B: Technical memorandum no. 2
- C: Technical memorandum no. 3
- D: Technical memorandum no. 4
- E: Technical Report