Appropriate Level of Effort for Planning for Small and Medium-Sized Communities

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Because of the need for a responsive local transportation planning process, the transportation planner is faced with the need to ascertain the appropriate level of effort. A uniform, highly structured study design is not appropriate in all cases nor is it always effective. This paper is an attempt to define the role of transportation planning in relation to the local general plan, thereby providing guidance for the integration of planning activities, elements, and products into an administrative process. Guidelines for the appropriate level of professional effort for transportation planning for small and medium-sized cities are given as a function of the growth characteristics and general transportation planning activities of the urban areas.

An attempt to determine the appropriate level of effort might begin with the questions, What is planning? and, What is the purpose of planning?

Planning may be defined simply as the "management of change." Different municipalities may have different goals and development potential. Consequently, the nature of the information needed and used by the decision-making structures of political jurisdictions will vary from place to place and time to time. A single highly structured study design is not universally applicable. Forcing inappropriate planning creates unnecessary conflict and can cause the entire transportation planning effort to be ineffective or even counterproductive.

Furthermore, it is essential that plan documentation not become the objective of the planning effort. The plan should be only one of the steps in moving from community goals to implementation. Integration of transportation planning activities into the general urban planning process is essential to implementation.

RELATIONSHIP TO THE GENERAL PLAN

The general plan is a public policy statement as to the generalized future physical development of a municipality. It provides guidance for the various public and private decisions regarding urban development. It also provides the legal basis for a municipal government to control the private use of land through the administration of the zoning ordinances and other applications of the police power.

Transportation and land use constitute the principal categorical plan elements that define the physical form of the urban area. Unfortunately, many of the comprehensive, continuing, and cooperative (3C) transportation planning efforts approached the problem from the point of view that future land use was a given and then proceeded to design the system to meet the forecast travel demand. In reality, both the land-use pattern and the transportation system are variables. Therefore, a solution can be approached by designing the land use so that a given transportation system can accommodate the demand.

It should also be recognized that it is the comprehensive plan that has legal standing in the courts, not the urban-area transportation plan, when the issue is the use of the police power to control development. Informed use of well-designed zoning and subdivision ordinances is essential for the long-term effectiveness of the urban transportation system.

DIMENSIONS OF THE PROBLEM

In small urban areas, the scale of the problem is small and readily understood. An analyst can visualize the existing urban-activity system as a whole. The relationships of the activity pattern and existing and possible future alternatives can be analyzed without extensive reliance on sophisticated modeling techniques. There are six reasons for this.

1. The size is small enough so that an analyst can digest substantial detailed knowledge of all portions of the urban area.

2. Even in urban areas experiencing very high rates of population growth, the area converted to urban uses within a 10- to 20-year time period is rather modest. Consequently, the market for any one developer is small and development is generally dispersed (i.e., the land being converted to urban uses is not confined to one specific area).

3. The street system in the developing fringe is to a very large extent dictated by the extension of the existing arterial street system. The total land area to be developed in the traditional 20-year planning horizon is not so large as to create major changes in street pattern.

4. The market for public transportation (even if the use per capita is exceptionally high) is so small as to preclude fixed-guideway transit. Consequently, many land-use versus transportation alternatives explored for large metropolitan areas need not be considered. For example: at the population density of Toronto, Ontario,
the entire population of a city of 100,000 would constitute less than 10 km² (4 mile²) of urban development. In small and medium-sized communities, the problem is one of developing a street pattern and land-use arrangements adaptable to paratransit or some type of bus transit service.

5. Any freeway-type facility will result from development of an interregional highway rather than the needs of internal automotive transportation.

If an effective planning process is being followed, local officials will generally possess a good understanding of the local problems. Decisions with regard to land use, transportation, and community facilities? Is the plan being followed in the administration of the zoning and subdivision ordinances and the development of the capital improvements program?

If an effective planning process is being followed, local officials will generally possess a good understanding of the local problems. Decisions with regard to land use, transportation, and community facilities will be coordinated. In these situations, transportation planning efforts might be best directed toward improved standards for the development and operation of the circulating system.

The legitimate use of the police power (zoning and subdivision regulations) to control land-use decisions is predicated on the existence of a comprehensive plan for the municipality. Therefore, where a current comprehensive plan does not exist, the first effort must be to establish an effective planning process—beginning with a definition of local goals and objectives. In the absence of an effective local planning process, any substantial effort on a transportation plan (or any other categorical plan) is likely to be wasteful of resources and ineffective in influencing the multitude of private and public land-use decisions.

### Growth Potential

A city for which no growth is anticipated obviously does not need to use the traditional four-step trip-generation traffic-assignment process to project future traffic volumes. The traffic can be simply counted. If trip-generation rates are expected to increase, forecasts can be developed by factoring existing volumes. The transportation problems already exist and can be addressed by routine traffic-engineering studies.

### Local Staff Skills

If local municipal officials (elected and appointed) are not involved in the development of the plan, do not understand it, or are not committed to it, plan implementation will not occur. The city planning and engineering staffs are in critical positions to influence implementation through their day-to-day decisions and close association with the municipal decision-making structures (specifically the city council and planning and zoning commissions). Their detailed involvement in the preparation of the transportation plan will increase the likelihood of implementation.

Substantially more communication is needed with local decision makers and the public if effective implementation is to occur. An appropriate level of effort may be about the same as that devoted to the technical studies. On a continuing basis, effective communications might require 1 person year of effort/year/10,000 to 20,000 population.

### Community Size

In a very small municipality, almost any street system will work reasonably well. In medium-sized cities, however, deficiencies may become apparent and require expensive correction.

### FLEXIBILITY NEED IN STUDY DESIGN

The specific study procedures and analytical techniques used in a given case should depend on (at a minimum) the following factors:

<table>
<thead>
<tr>
<th>Factor</th>
<th>Criterion</th>
</tr>
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<tbody>
<tr>
<td>Urban-area size</td>
<td>Small (&lt; 100,000 population)</td>
</tr>
<tr>
<td>20-year growth potential</td>
<td>Modest population increase (&lt; 50 percent)</td>
</tr>
<tr>
<td>Status of planning</td>
<td>Comprehensive plan does not exist or has not been recently updated</td>
</tr>
</tbody>
</table>

This has a potential for 12 different study designs, even before consideration is given to the nature of the questions of interest to the community or local staff skills are considered. Consequently, the total number of potentially appropriate study designs is rather large. As a result, the logical approach is to tailor the study to the local situation rather than attempt to establish a typical study format for general application.

The traditional transportation study, patterned after those used in large urban areas, is not necessary for the adequate evaluation of the alternatives and problems of concern in small and medium-sized urban areas. Nevertheless, it might be expedient to use the analysis
techniques and the available computer programs in cases
where the area is expected to experience exceptionally
large population growth. However, the level of effort
expended on the process should be a small fraction of
that commonly employed. The analysis of a land-use-
transportation scheme need not, and should not, exceed
3 to 4 person weeks of professional time plus a similar
amount of technical and clerical support.

In most cases, such analysis should be limited to the
preferred land-use-transportation alternative that is
being considered for adoption. Therefore, the level of
effort allocated to transportation planning procedures
or techniques that are identified as long-range planning
should be rather limited.

This does not mean that significant effort will not be
needed for long-range planning. On the contrary, a city
anticipating any amount of urban growth needs to care-
fully plan for its long-range development. The long-
range planning effort associated with the 3C process
should be redirected as by the following procedures:

1. Cooperation in maintenance of an updated and
current comprehensive plan;
2. Assistance in preparing improved street-
development standards in the subdivision ordinance
and improved access-control practices and driveway
design on arterial streets;
3. Assistance in preparing and developing zoning-
administration practices that more adequately reflect
the relationships between land use and the transporta-
tion system;
4. Development of guidelines, plans, and programs
for upgrading existing arterial streets and the redevelop-
ment of adjacent land; and
5. Coordination of the planning efforts and the vari-
ous comprehensive plans when two or more municipali-
ties are in close proximity and of the local comprehen-
sive plan and the interregional transportation plans.

What, then, is the appropriate level of effort to be ex-
pended on an urban transportation study? How much
effort should be devoted to long-run, as opposed to
short-run, issues? on data collection? data analysis?
formulation and evaluation of alternatives?

Where an up-to-date comprehensive plan does not
exist, the level of effort necessary to develop and ob-
tain adoption of a comprehensive plan might range from
about 2 person years of professional effort in a small,
slow-growing community to 10 or more person years in
a medium-sized urban area experiencing rapid popula-
tion increase.

The rate of growth will also have a significant effect
on the level, as well as on the distribution, of the con-
tinuing planning effort. A desirable level for the con-
tinuing effort on the transportation-land-use elements
is described below:

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Little or No Growth</th>
<th>Very Rapid Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effort per year per 10 000 of population (person years)</td>
<td>0.2</td>
<td>0.5</td>
</tr>
<tr>
<td>Distribution of effort (percentage of total)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monitoring and projection updates</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Long-range planning</td>
<td>10</td>
<td>30</td>
</tr>
<tr>
<td>Short-range planning and improvement programming</td>
<td>80</td>
<td>60</td>
</tr>
</tbody>
</table>

For a city of 100 000 population, this translates to the
following:

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Little or No Growth</th>
<th>Very Rapid Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total effort (person years)</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Distribution of effort (person months)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monitoring and projection updates</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Long-range planning</td>
<td>3</td>
<td>18</td>
</tr>
<tr>
<td>Short-range planning and programming</td>
<td>18</td>
<td>36</td>
</tr>
</tbody>
</table>

Additional effort will be necessary to carry on the work
on the other community plan elements and for planning
administration.

Achieving a Balance Between Long-Range and
Short-Range Planning at an Appropriate
Level of Effort

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Increasing concern is being focused on the need for an improved plan-
ing rationale for smaller (generally fewer than 200 000 population)
urbanized areas. It is also necessary to provide officials at federal, state,
and local levels with a clearer picture of the appropriate balance between
short- and long-range planning for such areas. This paper presents a pro-
cess for identifying and considering relevant factors that affect transpor-
tation planning and describes the planning activities that would result
from these factors and the relationship between long- and short-range
planning activities.

Urban transportation planning, as developed in the mid-
1960s, requires a continuing, comprehensive, and coop-
erative (3C) transportation planning process as a basis
for federal participation in programs of transportation
projects in urbanized areas.

The urban transportation planning regulations, jointly
issued by the Urban Mass Transportation Administration
(UMTA) and the Federal Highway Administration (FHWA)
on September 17, 1975, call for the preparation of a
transportation system management (TSM) element as
well as of a long-range element and the consideration of
both in the transportation improvement program (TIP).

Transportation planning traditionally has been viewed