



Comparing Large-Scale Transportation Mitigation Programs

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Background

Presented to MPO
in 2017

Much crowding
Analysis

Some discussion
of mitigation



CORE CAPACITY CONSTRAINTS

Accommodating Growth on Greater Boston's
Congested Roads and Crowded Transit Systems

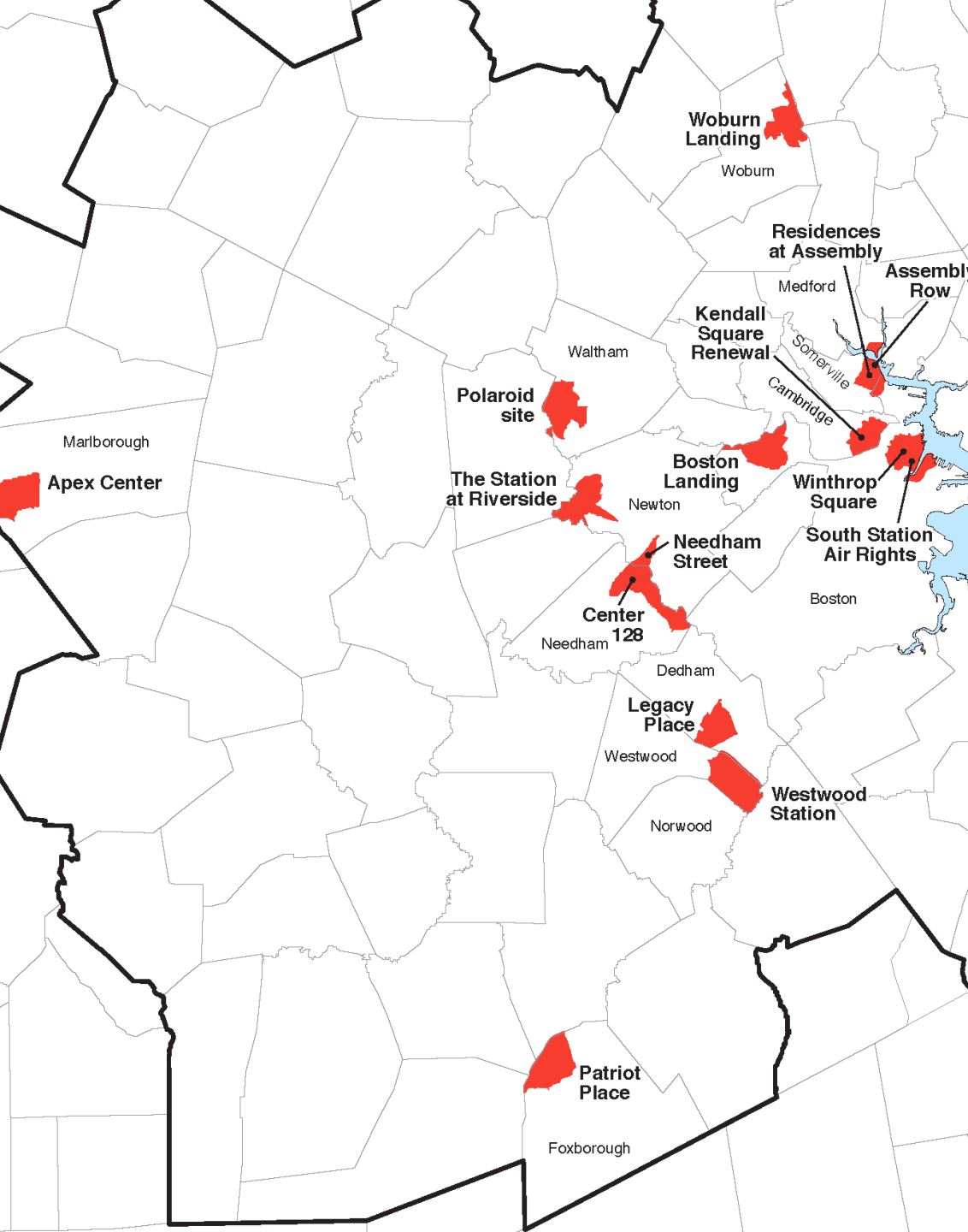


Focusing on Mitigation

- **Mitigation programs invite debate**
- **Projects vary greatly in scale and context**
- **Analytical framework helps make comparisons**
- **Case studies illustrate common themes**
- **Much analysis here is qualitative**

Analytical Framework

- **Select a sample of diverse large developments**
- **Define local areas around each development**
- **Calculate demographic profile of each local area**
- **Use development impacts published by MEPA**
- **Relate development impacts to demographic profiles**
- **Describe mandated mitigation programs**



The 16 Sample Developments

Local Area Demographic Profiles

- **Local Areas are assembled from TAZs**
- **Typically land within 0.7 mile of the development**
- **Local area population and employment are calculated**
- **Population and employment densities are calculated**
- **“Combined density” is used for comparisons**

Local Area Combined Density: Population + Employment per Square Mile

	Combined Density
South Station air rights	137,200
Westwood Station	2,700

Downloading MEPA Documents: Table 1 Excerpt

115 Winthrop Square	Boston	15610	http://eeaonline.eea.state.ma.us/EEA/emepa/meparproj.aspx?eoea_num=15610
South Station Air Rights	Boston	9131	http://eeaonline.eea.state.ma.us/EEA/emepa/meparproj.aspx?eoea_num=9131
Boston Landing	Boston	14909	http://eeaonline.eea.state.ma.us/EEA/emepa/meparproj.aspx?eoea_num=14909
Assembly Square Mixed Use (Assembly Row)	Somerville	13989	http://eeaonline.eea.state.ma.us/EEA/emepa/meparproj.aspx?eoea_num=13989
1265 Main Street (Polaroid site)	Waltham	14681	http://eeaonline.eea.state.ma.us/EEA/emepa/meparproj.aspx?eoea_num=14681
Center 128	Needham	15233	http://eeaonline.eea.state.ma.us/EEA/emepa/meparproj.aspx?eoea_num=15233
Westwood Station	Westwood	13826	http://eeaonline.eea.state.ma.us/EEA/emepa/meparproj.aspx?eoea_num=13826
The Station at Riverside	Newton	14590	http://eeaonline.eea.state.ma.us/EEA/emepa/meparproj.aspx?eoea_num=14590
Apex Center	Marlborough	13755	http://eeaonline.eea.state.ma.us/EEA/emepa/meparproj.aspx?eoea_num=13755

Projected Increases in Population and Employment

	Population	Employment
South Station air rights	1,590	4,100
Westwood Station	1,820	3,583

Projected Percent Increases in Population and Employment

	Population	Employment
South Station air rights	9%	2%
Westwood Station	84%	150%

Aspects of Mitigation Programs

- **Traffic Systems Management (TSM)**
- **Transportation Demand Management (TDM)**
- **Provision of transportation services**
- **Building new transportation infrastructure**

Limitations of TSM

- **Traffic growth has made it more difficult to achieve roadway level-of-service targets**
- **Switching drivers to transit stresses the transit system**
- **Locally mitigated projects add congestion at distant locations**

Conclusions and Common Themes

- **All projects are different**
- **There are distinct geographical realms of mitigation**
- **Larger developments present more diverse mitigation opportunities**
- **Transit mitigation builds upon viable opportunities**
- **Implications for the future of transportation mitigation and investment**

All Projects are Different

- **Activities and trip generation rates vary**
- **Proposed at different points in business cycle**
- **Local areas have different characteristics**
- **Existing and potential transit services vary**
- **Roadways, pedestrian, and bicycle facilities vary**
- **“Large” projects range widely in size**

Geographical Realms

Mitigation measures might be implemented:

- within a development
- at the edge of a development
- at some distance from a development

Larger Developments Present More Opportunities

- **Assembly Row, Somerville**
- **Polaroid site, Waltham**
- **Westwood Station, Westwood**
- **South Station air rights, Boston**
- **Center 128, Needham**
- **Boston Landing, Boston**

Transit Mitigation Builds upon Viable Opportunities

- **Increasing transit use depends on travel demand patterns and existing services and infrastructure**
- **Regional mitigation practices recognize this and major transit investments are mandated where viable opportunities exist**
- **New stations at Assembly and Boston Landing have attracted substantial ridership even as the new developments draw workers from throughout the region.**

Process Case Study: Westwood

- Many mitigation themes illustrated in Westwood
- How are priorities set and consensus achieved?
- Top concern: increased traffic
- 4 million square-foot development approved in 2007
- Extensive mitigation was mandated
- Mitigation was deemed adequate despite strong opposition in neighboring communities

Development Proposals Change

- Original developer backed away during recession
- New owners proposed a 2 million SF development
- Already approved mitigation package stayed in force
- New proposal included affordable housing
- Several off-site road improvements are in other towns
- Westwood Town Meeting overwhelmingly approved plan
- Neighboring communities not actively opposing

Implications for Transportation Mitigation

- **Economic growth increases transportation demand**
- **Accommodating new demand is increasingly difficult**
- **Even the most expansive mitigation programs are small when compared with regional investment needs**

Implications for Transportation Investment

- **Users of new developments pay user charges such as fares, tolls, and gasoline taxes**
- **Users and developers also pay broad-based taxes on income and property**
- **User charges and broad-based taxes more closely align with transportation investment needs than mitigation programs**

Thank You

Questions?

