Collaborative Metropolitan Planning for Urban Centers

A REVIEW OF STRATEGIES AND APPROACHES

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1. Overview

In many regions of the United States, Metropolitan Planning Organizations (MPOs), use the planning designation of "urban center" to link transportation and land use funding with areas with high density, multi-modal, mixed use development patterns. Regions employ this designation in MPO plans and policies to address a wide array of problems, such as regional air quality and housing. They also use centers in regional visioning and scenario planning processes with voluntary participation on the part of local governments.

This project asks: What are the policies for defining, designating, and incentivizing urban centers in metropolitan regions?

This study addresses this question through content analysis of plans and policy documents, a policy crosswalk of regional plans, interviews, and a spatial analysis of center data.

2. Summary of Findings

Overall, this study finds that regions craft MPO policies around involving localities in enhancing regional livability. Regions adopt different policy models with more or less coordination; they are motivated by a wide diversity of concerns; they designate many centers by emphasizing bottom up participation in the program; they craft broad eligibility requirements; they target on the whole a range of small communities already well served by transit; and they offer incentives which are more carrot than stick based. I also found that:

- Regions adopt one of three policy models:
    - Urban Center Policies, which incentivize investments in centers through formal designation procedures.
    - Center Assistance programs, which do not involve designation or its attendant coordinating activities.
    - Enhanced Activity Center Planning, adopts goals and policy themes similar to those of Urban Center Policies but use traditional MPO planning techniques to get there, and do not dedicate incentives to these areas nor rely on designation procedures.
- Regional drivers of center policy include growth management goals and removing barriers for increased economic activity in areas and mixed-use development. Transit Oriented Development and Air Quality concerns also motivate regions in shaping center policies.
- Many Urban Center Policies possess designation procedures which trend towards voluntary, “bottom up,” local nomination of areas, rather than “top down” nomination by the MPO. MPOs use regional visioning and scenario planning to discuss designations like regional priority areas, the nomination of areas is structured around the need for concrete improvements to that area; and the high number of approved designations does not necessarily reflect the voluntary or top down nature of Urban Center Policies.
- Center eligibility can be a process for serious project evaluation or a process that simply involves localities more in plans. Across the MPOs, eligibility mostly consisted of the latter: baseline requirements designed to approve many areas, rather than

screen them out; MPOs designed requirements to approve nominated areas which demonstrate local commitment to the regional policy.

- Regions use place types to speak of the potential for land use and transportation connections in proposed centers. Regions also use them after center designation as development guides. Small communities connected to transit centers tend to be a favored place type in regional geographies across many of the MPOs.
- Regional urban center geographies capture transit systems well, despite including many more areas than those of regional fixed transit systems. On average, 65% of fixed transit was located within center boundaries in Urban Center policies for which data was available, and overall 34% of the centers in these policies were served by fixed transit.

3. Recommendations

Based on this study, I recommend that regions need to adopt the proper type of program for their area and that MPOs should reorganize policy around the policy elements which are most effective:

- Make the elements and framework of regional policy model clearer. Many regional governments do not articulate the formality of their designations and offer incentives merely as a bonus. Governments have a choice to either adopt voluntary procedures to incentivize development or simply indicate that projects in areas would be a good idea. Furthermore, adopt a formal Urban Centers Policy, rather than a Land Use and Transit Connection Program if the aim of the region is to consistently fund projects across a wide geography, rather than assist in major development projects.

- Make goals and procedures clearly overlap with eligibility requirements and incentives. It can be unclear, especially in policies without designation procedures, whether the regional shift towards planning around livability and amenities really intends to signal new regional policy. Regions can make this clearer by articulating goals in line with local motivators for transit oriented development and economic activity.
- Adopt voluntary designation policies around a project-based model which results in clear products, if the MPO aspires to multi-year involvement in local projects rather than TIP incentives. The amount of centers designated may have more to do with the characteristics of the region and the policy.
- Adopt contextual, open door eligibility requirements to encourage holistic evaluation rather than screening out areas. Center eligibility can be a process for stringent? project evaluation or can be a process which simply leads to approval for localities.
- Policy direction can be altered in the number of places through place typologies. MPOs can achieve greater integration of suburban areas into metropolitan policymaking through widening town-center typologies.
- Package TIP moneys as funds for planning studies and/or pilot projects; consider efforts to reduce development taxes.
- MPOs should consider whether their policies rely on station area planning in eligibility requirements and place typologies when they could fold many types of centers into these collaborative metropolitan planning policies.

I. INTRODUCTION

In the United States, metropolitan areas make efforts to coordinate land use and transportation planning around regional center-periphery designations. In 1962 the Federal government mandated the creation of Metropolitan Planning Organizations for areas of over 50,000 people. But over time regions combined these organizations with associations and councils of governments (COGs) to consider regional effects of transportation improvements. In the 1960s, for instance, the Minneapolis-St. Paul MPO, Metro Council, used a center-periphery model to develop a regional transportation plan which would consider how municipal services differed differ across the geography of the region (Metropolitan Council, 2013). In the 1970s and 80s, "growth" centers were used as ways to coordinate and manage sprawl and preserve open space. In the 1990s, "smart" centers became priority areas for combining many transportation and land use needs together (Piro, Leiter, & Rooney, 2017).

However, since the late 1990s, regions embraced these center-periphery designations as a result of concerns about livability, transportation expenditures, air quality, and housing needs. As a result, they developed regional collaborative planning efforts to promote more compact forms of urban development which are linked to transit investment. These changes led to the "urban center" emerging as regional land use designation which can assist in coordinating development to promote regional livability. Regional centers function both as planning designations and as focal areas for discussing local priorities within the regional context (see Appendix A for a more detailed discussion). This study reviews the concept of centers across metropolitan regions in the United States and

examines the definitions, polices and approaches used in these regions to support their implementation.

1. Research Gaps

This study addresses several gaps in the literature which I found (see Appendix A). First, local and regional governments need to understand the range of regional policy options to coordinate transportation and land use planning. Second, the full extent of regional policies has not been canvassed. Finally, literature does not integrate recent policy changes.

2. Methods

This study focuses upon Metropolitan Planning Organizations with centers strategies articulated in regional plans or visioning documents. Table 1 below shows the Metropolitan Planning Organizations I selected, and lists abbreviations which will be used throughout this study. This study also considers MPOs with less formalized statements on how Federal transportation dollars will be spent in conjunction with other incentives towards this policy. I define center policies as policies which:

- Divide centers and peripheries via a special area designation
- Involve policy statements on specific characteristics to be present within a center and/or without it, or outlines specific features designed to be implemented through it
- Are regional in scope (rather than those administered by counties or states)

Table 1, MPOs Studied

MPO	Location of Headquarters	Abbreviation	Center Designation
Atlanta Regional Commission	Atlanta, Georgia	ARC	Regional centers and places
Boston Regional MPO	Boston, Massachusetts	BRMPO	Livable Communities
Capital Area Metropolitan Planning Organization	Austin, Texas	CAMPO	Centers
Capital District Transportation Commission	Albany, New York	CDTC	Linkage Areas
Chicago Metropolitan Area for Planning	Chicago, Illinois	CMAP	Livable Communities
Delaware Valley Regional Council	Philadelphia, Pennsylvania	DVRC	Center Planning Areas
Denver Regional Council of Governments	Denver, Colorado	DRCOG	Center Planning Areas
Houston-Galveston Area Council	Houston, Texas	HGAC	Livable Centers
Memphis Metropolitan Planning Organization	Memphis, Tennessee	Memphis MPO	Centers
Metro (Oregon)	Portland, Oregon	Metro	Centers
Metro Council of Governments	St. Paul, Minneapolis	Metro Council	Livable/Transit /Activity Centers
Metropolitan Transportation Commission	San Francisco, California	MTC	Priority Development Areas
Metropolitan Washington Council of Governments Transportation Policy Board	Washington, D.C.	MWCOG TPB	Regional Activity Centers
North Jersey Transportation Planning Authority	Newark, New Jersey	NJTPA	Emerging Centers
Northeast Ohio Areawide Coordinating Agency	Cleveland, Ohio	NOACA	Strategic Investment Areas
Pinellas Planning Council and Metropolitan Planning Organization	Tampa, Florida	Pinellas Forward	Activity Centers
Puget Sound Regional Council	Seattle, Washington	PSRC	Growth / Manufacturing-Industrial Centers
Sacramento Council of Governments	Sacramento, California	SACOG	Mixed-Use Center
San Diego Association of Governments	San Diego, California	SANDAG	Smart Growth Opportunity Areas
Southern California Association of Governments	Los Angeles, California	SCAG	High Quality Transit Areas
Wasatch Front Regional Council	Salt Lake City, Utah	WFRC	Urban Centers

I found these cases through several iterations of policy review. This review represents only 21 of the over 400 MPOs in the US, but each one of them has adopted a centers policy in some form.

3. Research Data and Analyses

Content Analysis

I conducted a content analysis of 21 regions and their metropolitan vision plans and guiding documents, regional transportation plans or transportation system plans (RTPs or TSPs), transportation Improvement Plans (TIPs), affordable housing strategies, open space plans, state and local legislation related to regional governance, maps and GIS data about

center areas and typologies, and budgets, financial and economic assessments, and other supporting documents.

In conducting the content analysis, I sought to identify policies and note the presence or absence of key terms relating to the goals of centers. The process of analysis can be broken down into four steps:

1. Unitizing data from documents relating to centers policy, units of analysis established as MPOs
2. Analytical model established (categories)
3. Purposive sampling of documents related to MPO data
4. Aggregation of categories and production of comparative matrix

I derived the major analysis categories from the literature review (Appendix A) and include questions about:

1. Center definition and drivers: What are the goals of the center and the drivers of policy?
2. The designation process: What is the designating authority and approving authority for the center?
3. Center typology: What are ways centers in the region differ, which allow certain centers and their amenities or benefits to be distinguished from each other?
4. Criteria and thresholds: What are the design criteria which allow places to qualify as centers?
5. Incentives: What incentives are put in place to make places identify as centers?

Interviews

I supplemented the analysis with interviews and correspondence with officials and planners from each region to identify accuracy of the information gathered from the content analysis. Not all MPOs were interviewed because sufficient information from planning documents was gathered, as well as time considerations. In total I conducted interviews with 11 MPOs:

1. Atlanta Regional Commission
2. Capital Area Metropolitan Planning Organization
3. Chicago Metropolitan Area for Planning
4. Delaware Valley Regional Council
5. Denver Regional Council of Governments
6. Metropolitan Transportation Commission
7. Metropolitan Washington Council of Governments Transportation Policy Board
8. Puget Sound Regional Council
9. San Diego Association of Governments
10. Southern California Association of Governments
11. Wasatch Front Regional Council

Spatial Analysis

To understand spatial features of metropolitan center policies, the above content analysis was supplemented with a spatial analysis of center areas and their orientation towards station area planning. Details on methods are available in Appendix D. I conducted the analysis using the locations of fixed guideway transit stations within each region for

which center boundary shapefiles could be found. The data was used to calculate the number of centers served by these station areas and vice versa. Details on methods can be found in Appendix D.

4. Limitations

The study is limited because it reviews only 21 of the 400+ MPOs nationally; furthermore, of these 21 I only conducted interviews with eleven MPOs. Additionally, I did not research implementation in detail, leaving the focus of the study to be the policy as outlined by MPOs. Finally, I did not review policies of local governments or interview them, and entirely considered these policies from the MPO's perspective.

II. FINDINGS

The organization of this chapter follows the major categories of the content analysis, then supplements this with findings from the spatial analysis (see Appendix C for a detailed policy matrix). In general, findings fall under the following questions about center policies:

- Policy models: What are the main policy models used by MPOs?
- Definitions, themes, and drivers: What drives policy in the region?
- Designation process: How are centers designated?
- Designation eligibility: What makes centers able to be eligible?
- Place types: What is the range of types of places designated?
- Spatial characteristics: Are there any common spatially identifiable characteristics of centers across regions?
- Incentives: What are the incentives for participating?

1. Policy Models

I found that MPOs in each region employ different center policy frameworks, with different elements and relations between the elements. I found common policy elements in all the MPO center policies, corresponding the analytic categories derived from my literature review (Appendix A). However, these elements were absent in some of the policies and differently related. I group the models into three "tiers."

Urban Center Policies

"Urban Center Policies" involve all five of the following major policy elements,: 1) goals corresponding to clear drivers of the policy; 2) designation procedures; 3) eligibility requirements for areas which could be designated; 4) regional place types differentiating centers from each other across the geography of the metro area; and 5) incentives for participating localities. Examples include the Atlanta Regional Commission's Livable Centers Initiative, the Puget Sound Regional Council's Growth and Manufacturing/Industrial Center policy, the Denver Regional Council of Governments Urban Center Policy.

The example of the H.E. Holmes Station Area, in Atlanta, Georgia, illustrates how the elements of an Urban Centers Policy relate. In the early 2000s, the City of Atlanta identified the H.E. Holmes MARTA station as an under-utilized area with potential for transit oriented development, and found its goals in the area reflected those of the Atlanta region's Livable Cities Initiative. The City of Atlanta then submitted a formal request that ARC designate the area around the transit station a center. In the request, the City showed the various ways the area was eligible for designation, including that it met the minimum threshold for an urban center area. The City also identified that it needed planning study funds to rezone the area, and incentive of the regional policy. Planning staff at ARC reviewed the request, including its eligibility and its conformity to regional geography, and sent it to its boards for approval. ARC funded the study, which was completed in 2001 proposed rezoning the area (City of Atlanta, 2002). The rezoning occurred, and the City now discusses the area in meetings with ARC beyond the context of the study. It also has completed a five-year update showing development and progress in the area, which it submitted to ARC (City of Atlanta, 2007).

Center Assistance Programs

"Center Development Programs" are the second tier of policy models. Regions with this policy model prioritize dense, mixed-use centers of many types but do not designate them as such. For example, the Twin Cities' Metropolitan Council's Livable Communities policy has several grant programs focusing on encouraging Transit Oriented Development, housing development, and brownfield reclamation in certain eligible locations across the region. This is a policy which resembles, for example, ARC's Livable Centers Initiative. Similarities include how Metro Council specifies eligibility requirements for areas receiving these grants; how Metro Council links these requirements to a regional geography of place types; and how these areas receive priority in regional transportation planning documents. However, there is no designation which includes these areas within these planning processes and excludes other areas. The lack of designation makes for differences in local involvement: localities in the Minneapolis-St. Paul region do not discuss center areas with the MPO, but rather talk of the project areas for which they have received grants. PSRC and DRCOG, by contrast, have annual meetings for localities with designations to discuss the center itself. Nor does the Metropolitan Council have any power to de-designate centers or discuss adjustment of center boundaries, since there are no land use designations for the area which would be specifically and formally tied to the policy.

In short, regions with Center Development Programs have different ways of discussing center areas and coordinating their development. Furthermore, regions with these policies can have varying attitudes towards linking centers with land use and transportation, and how much metropolitan planning using Federal transportation dollars should support these efforts. Many regional COGs and Associations of Governments

adopted “Livable Center” programs using the Federal Sustainable Community Grants from the Department of Housing and Urban Development, which were awarded in the early 2010s. These programs involved regional visions and scenario planning which prioritized regional centers. However, regional governments supported many of these efforts with technical assistance programs which were uncoordinated with Center Assistance planning involving funding from Federal sources. In the case of the Chicago Area Metropolitan Council, the Livable Center Program leverages Federal and state funds to provide technical assistance to localities. The Boston region’s Metropolitan Area Planning Council has a technical assistance program for regional livable centers which is not directly linked with the land use and transportation planning efforts of the Boston Regional MPO, though the latter integrates these regional policies within its planning efforts. All of these policies can be contrasted to the plans of Memphis MPO, which references many Livable Center programs, and provides technical assistance for linking land use and transportation, but does this with a center designation. Overall, regions with Center Development Programs involve state support for broad regional coordination.

Enhanced Activity Center Programs

Regions with “Enhanced Activity Center Programs,” the third tier of centers policies, prioritize transportation and land use improvements without articulating regional geographies or identifying clear requirements for eligible areas other than traditional transportation improvement. For example, the Southern California Association of Governments’ High Quality Transit Area program provides technical assistance for livable

and sustainable community developments through pilot projects in localities. Like Metro Council, the policy does not designate these areas. Unlike Metro Council it also does not have a regional geography of place types through which it articulates eligible areas. Some of these regions do not even have clear eligibility requirements: they simply possess the motivation to prioritize land use and transit connections in their transportation planning, Pinellas Forward, in the Tampa, Florida region, prioritizes funding for activity centers in their TIPs. However, the MPO does not identify any special requirements for these areas which would allow localities to propose priority projects. A more typical example is that of Albany, New York region, whose Capital District Transportation Commission. The CDTC prioritizes transportation land use connection planning around livability through its Linkages program, however it does not dedicate any funding for this program beyond traditional transportation investments involved in Complete Streets and other Federal programs. In short, I found that regions with Enhanced Activity Center Planning often involve regions prioritize land use and transportation connections, without less of a concern for the overall effect on regional geography.

2. Definitions, Themes, and Drivers

Six regional motivators drive policy in the MPO documents I reviewed: growth management, the desire to increase economic activity, the desire to leverage transit oriented development, air quality and environmental protection, increasing livability, and increasing regional equity (See Table 2 below for Urban Center Policy definitions and Appendix B, Table 8, Policy Themes).

Table 2, Urban Center Policy Definitions

	Name	Definition
ARC	Regional Centers and Places	"Centers and Places that give residents and employers a sense of place… each center and place has different needs and development issues and priorities."[1]
CAMPO	Centers	Areas with "a mix of land uses that support transit, bicycling, and walking[,] optimiz[ing] peoples' ability to take fewer and shorter vehicle trips, reducing vehicle miles traveled."[2]
DVRPC	Urban centers	"Focal points in the regional landscape to reinforce or establish a sense of community" with "more compact, mixed-use, and mixed-income development [intended to] shorten distances between destinations, and encourage alternative and active forms of transportation."[3]
DRCOG	Center Planning Areas	Areas which will "absorb a significant amount of growth and offer more convenient accessibility via bus or rail transit and opportunities for shorter nonmotorized trips via walking and bicycling."[4]
HGAC	Livable Centers	"Places where people can live, work, and play with less reliance on their cars. Livable Centers are compact and mixed-use, are designed to be walkable, and are connected and accessible by multiple modes."[5]
Memphis MPO	Centers	"Investment contexts" of certain "scales" which will receive "improved mobility and travel time reliability on corridor connections […] and last-mile connectivity," "redevelopment opportunities, multimodal connections and access to a mix of business, retail and residential uses," or "improved system operations and multimodal access to community resources."[5]
Metro	Priority Development Area Centers	"Centers of urban life in the region." "Compact, vibrant communities that use land efficiently, maintain connections to the natural environment and promote strong local and regional economies."[6]
MTC	Regional activity centers	"Existing neighborhoods […] served by public transit [which] have been identified as appropriate for additional, compact development."[7]
MWCOG TPB	Centers	"Major housing and jobs centers." "The places that will accommodate much of the region's growth in the coming decades"[8]
PSRC	Growth centers	Locations "characterized by compact development" and which function "as strategic places to receive growth and use resources efficiently." Are the "primary framework for regional transportation and economic development planning."[9]
SANDAG	Smart Growth Opportunity Areas	Areas which have the potential to "locat[e] higher density and mixed-use development close to existing, and planned transportation infrastructure."[10]
WFRC	Urban centers	"Historical and emerging regional destinations of economic activity," largely defined in terms of "catalytic" sites for "multi-modal mixed-used development."[11]

[1] Plan 2040 (Atlanta Regional Commission, 2011)
[2] 2040 RTP (Capital Area Metropolitan Planning Organization, 2015)
[3] 2045 RTP (Delaware Valley Regional Planning Commission, 2017)
[4] 2040 RTP (Denver Regional Council of Governments, 2011), 2017 Metro Vision 2035 Growth and Development Supplement (Denver Regional Council of Governments, 2012)
[5] Houston Galveston Area Council Livable Centers Strategy Study (Houston-Galveston Area Council, 2009)
[6] 2040 RTP (Memphis Urban Area Metropolitan Planning Organization, 2016a)
[7] Regional Framework Plan (Oregon Metro, 2015), State of the Centers Report (Oregon Metro, 2011)
[8] Plan Bay Area 2040 (Metropolitan Transportation Commission, 2017)
[9] 2050 RTPP (Metropolitan Washington Council of Governments Transportation Policy Board, 2014); Place + Opportunity (Metropolitan Washington Council of Governments, 2014)
[10] 2017-2020 TIP Overview (Puget Sound Regional Council, 2016)
[11] 2050 RTP (San Diego Association of Governments, 2011)
[12] Wasatch Choice 2040 (Wasatch Front Regional Council, 2010)

Growth Management

Growth management is a central driver of policy in six of the eleven Urban Centers Policies. These regions articulate goals for centers like compact development, land use efficiency, and mixed-use development. For instance, PSRC's smart growth program was developed in concert with state growth management efforts. Compact development and the

conservation of open space characterize many of the concerns of the policy, both in the ways it defines centers and the way that officials articulate its purpose. Centers are areas “characterized by compact development” and which function “as strategic places to receive growth and use resources efficiently” (Puget Sound Regional Council, 2016).

Economic Activity

In five of the eleven regions with Urban Center Policies I found that the aim of increasing economic activity and facilitating investment in mixed use development. Policy themes include increasing the amount of employment in areas designated centers, increasing activity, and increasing vibrancy. For example, Portland Metro in 2011 oriented its centers policy heavily towards the removing barriers to mixed-use compact development which would stimulate economic activity (Oregon Metro, 2011). Similarly, while the Salt Lake region’s Wasatch Front Regional Council started its urban center program concerned with air quality and open space planning, discussions in the region emphasized the ability of centers to create economically viable mixed use communities (Matheson Jr., 2011). Accordingly, it defines centers as "historical and emerging regional destinations of economic activity," and as “catalytic” sites for “multi-modal mixed-used development” (Wasatch Front Regional Council, 2010).

Transit Oriented Development

A third driver is leveraging investments to support transit. The focus of the D.C. metro MWCOG, for instance, is on utilizing areas next to regional transit after prior studies identified these areas as underdeveloped (Metropolitan Washington Council of

Governments, 2014). Similarly, MPOs focused on internal system efficiency often thought of centers as leveraging investments in infrastructure already made: Memphis MPO's center policy focuses entirely on center areas because of their transportation "investment contexts," which may favor the building of mixed use developments but which primarily emphasize the improvements in the area to increase mode-share and connectivity (Memphis Urban Area Metropolitan Planning Organization, 2016a).

Air Quality Drivers

In some regions, centers are driven by a need to address air quality. For example, the Atlanta Region's ARC is promoting centers as a result of EPA threats to deny the region transportation planning funds in the late 1990s. The EPA stopped Federal funds to the region until it produced a strategy for conformity with the Clean Air Act Air Quality Control measures (Lombard, 2017). Accordingly ARC defines centers in environmental terms, with "areas with a sense of place" as its definition of centers. Denver metro region's DRCOG similarly includes air quality policy themes prominently in its center definitions, specifically mentioning Greenhouse Gas Reduction as a policy goal.

Livability as an Emerging Policy Theme

Another theme that arose in many regions was "livability" in terms of amenities that attract development. Every one of the Urban Center Policies considered articulated their policy with reference to livability elements as it has been defined by the National Association

of Regional Councils (National Association of Regional Councils, 2009). These include multi-modality, connectivity, walkability, and character.

Regional Equity as an Emerging Policy Theme

A final theme related to concerns about inter-regional equity. For example, DVRPC specifically mentions multi-income development as a feature of centers, addressing inequity as a function of the types of developments.

3. Designation Procedures

In reviewing plans, I found that regions designate certain areas as centers differently (see Table 3 below for a summary of Urban Center Policy designations). The designation process is straightforward: a locality formally requests that an area be designated, the MPO reviews this request, and the MPO approves the designation, sends it back for revision, or denies the request. Overall, in the policies reviewed, I found that all regions with Urban Center Policies have designation procedures, while Center Development and Enhanced Activity Center Programs do not. Furthermore, many of these procedures consist of voluntary, "bottom up," local nomination of areas which are approved or rejected by the MPO. Voluntary procedures contrast to "top down" nomination by the MPO, which are less frequent. I also found that while MPOs use regional visioning and scenario planning to discuss designations like regional priority areas, policy assumes that areas are nominated because of the need for concrete improvements. Accordingly, I also found that the high

Table 2, Designation Process for Urban Centers Programs

	Regionally Visioned	Bottom up	Top down	Details	Number of centers
ARC	X	X		Centers identified as eligible by ARC, areas can apply for grants.	97
CAMPO	X	X		Local jurisdictions submit formal procedures for new centers to be adopted, approved by board. Visioned through region.	59
DRCOG	X	X		Jurisdiction meets with DRCOG staff and evaluation panel, DRCOG's board approves the process.	120
DVRPC	X	X		Center areas identified as eligible, local government approaches to apply for grants.	104
Memphis MPO			X	Board designated.	
Metro	X	X		Cities or counties propose new centers or changes to designation, Metro approves designations.	40
MTC		X		Applications for PDAs are submitted to MTC for approval, and it is then sent to the Regional Planning Commission and the Executive board of the Association of Bay Area Governments for adoption.	170
MWCOG TPB	X		X	MPO designates centers, gathers input from Planning Directors Technical Advisory Committee, meeting with jurisdiction to confirm centers.	141
PSRC	X	X		Centers identified locally, designated by county planning policy, then advance to regional designation, reviewed by Growth Management board and Executive Board.	29
SANDAG		X		Local jurisdictions identify, coordinate with SANDAG who designates them existing, planned, potential.	195
WFRC	X	X		They are "self-assessed" or identified through the local use of regionally designed tools: market analysis guides and a community development guidebook, efforts created through a partnership between the Wasatch Council, Envision Utah, and the UDOT, approved by the WFRC.	50
Totals	7	9	2		

Note: Only Urban Center policies are included in this table since these policy models are the only ones with formal designation procedures. Source: Interviews, MPO RTPs.

number of approved designations does not necessarily reflect the voluntary or top down nature of Urban Center Policies but the amount of projects necessary in the region.

Voluntary and Top-Down Designation Procedures

Designation is voluntary in the majority of MPOs with Urban Center Policies: eight of the eleven Urban Center Policies reviewed were voluntarily initiated by localities (see **Error! Reference source not found.**). “Voluntary” means that designation begins in local nomination of center areas, usually in the submission of an application to an annual call for center nominations. A locality nominating a particular area as a center usually has to supply information about the area so that it will meet eligibility requirements

(discussed below), detailing information about it (such as its current and projected growth, where the boundaries should be, etc.), or plans for improvements which may be necessary. Voluntary designation then ends in regional evaluation of the application and approval: it is "bottom-up."

Unlike "top-down" designation procedures, in a "bottom up" procedure an area does not have to be approved or even eligible for localities to begin discussing designation potential. Interviews confirmed that, usually, both localities and the MPOs know the areas likely to be designated in a region before they are nominated, and extensive discussions between the MPO and the locality often take place before a center would be nominated. But any locality would be able to nominate any area in a region with a voluntary Urban Center policy designation process. For example, in the Atlanta region, ARC holds meetings with localities to identify areas within incorporated communities as eligible for designation. These communities then submit a formal proposal to apply for center designation. If a community applies to be a center, the center undergoes evaluation by ARC planning staff to see if it is in conformity with eligibility requirements and then is approved by two ARC boards. The community then receives funds and technical assistance in the next funding cycle.

Bottom-up designation procedures can be contrasted with top-down procedures, in which regions strategically designate areas centers and dedicate transportation funds to them whether the locality nominates these areas for participation in the program or not. The Washington D.C. area's MWCOG Transportation Policy Board is the most prominent example of this top-down designation process. Intending to leverage the significant regional rail investment in the area, the board reviews specific station areas for eligible characteristics and designates any area around a rail stop an urban center. The center then receives

funding for improvements. There are extensive consultations between the MPO and the localities which quality. Urban Center Policies which use this type of designation procedure resemble certain Enhanced Activity Center Planning programs. In both cases the region determines the areas to be prioritized as centers; in Urban Center Policies, the region simply dedicates more funding to them after they are designated. Memphis MPO is an example of an Urban Centers Policy that could be mistaken for a Enhanced Activity Center Planning program in this manner. Where it differentiates itself is in the amount of the region's thought having gone into eligibility requirements and place types, as well as in its decision to dedicate funding specifically to the areas with the designation.

Regional Visioning and Designation

While bottom-up designation procedures allow localities to take the lead in the designation process, MPOs attempt to gain regionwide buy-in for the policy through regional visioning indicating potential areas for designation. Six out of the eight urban center policy bottom-up processes also involve a visioning process which identifies center areas or locates them within a scenario, whether they are actually designated as such or not. Visioning in many of the MPOs is an extended process, with many stakeholder meetings and forums where localities can exchange ideas about the future of the region and craft the Long Term Regional Transportation Plan. While it may have uncertain results (Bartholomew, 2007), in urban center policy planning it allows localities to discuss regional centers and assists in the designation process. The MPO may use its regional data and transportation planning tools to craft multiple future scenarios with different potential centers. For example, the Wasatch Front Regional Council crafted its 2050 Regional Transportation Plan

using three scenarios, each of which envisions a different number and location for potential centers. As localities contribute their opinions on the scenarios, the MPO finalizes a regional map with several potential centers represented on it. While the map serves as a guide which may encourage center nomination, I found that designation also involves practical concerns of localities as much as the fulfillment of the regional vision itself.

Project-Based Designation

I found that designation requests tend to be based on the submittal of a detailed work plan for the area involved. One major component of designation for the Atlanta Regional Commission's Livable Centers Initiative, for instance, is that approval funds a planning study. This is a concrete product which serves as a coordinating document for projects in the area. Rarely do regions designate centers simply to draw border around areas localities would like to collaborate around.

Number of Designated Centers

Finally, I found that the prevalence of bottom-up designation procedures does not necessarily impact the number of centers actually designated. Rather, other issues like policy drivers, eligibility requirements, the nature of the regional geography, and the history of planning in the region are just as consequential in determining the number of localities which participate in the program and are eventually designated. Some policy reviews of urban center policies mark the number of designated centers a concern, presumably because there is a question of whether regions with a bottom-up policy are destined to have a high number qualified areas (Puget Sound Regional Council, 2018). Indeed, there is wide variation in the number of centers with bottom-up procedures, ranging from 29 (PSRC) to

195 (MTA). Indeed, a high number of centers seems to simply be the average for most MPOs regardless: the average number of all urban center policies, using counts available up to 2017, was 92.9. Furthermore, top-down procedures could issue in many centers as those with voluntary designation: D.C. metro's top-down MWCOG Transportation Policy Board, for instance, has approved close to 150 centers. Conceptually separating the voluntary nature of much MPO policy from the number of areas eventually designated by these programs is necessary to understand that the procedures themselves may not produce greater or lesser participation in the regional planning.

4. Eligibility

I also reviewed the eligibility requirements involved in designation processes. Eligibility requirements are features of potential designated areas which allow the MPO to approve or reject their nomination. Each MPO crafts these requirements around regional conditions and in concert with their regional growth models and transportation demand models. I found that regions craft broad, baseline requirements designed to approve many areas rather than screen them out. Regions also design eligibility criteria to approve nominated areas demonstrating local commitment to the regional policy, rather than areas which simply meet regional requirements. (More information on the types of metrics used in determining eligibility for designation is available in the Appendix C summary table).

Place-based and Contextual Requirements

MPOs approve nominated areas if they meet agreed upon requirements of "centers," usually through the verification of information which is supplied to them as part of a

designation application by a nominating locality. I group these requirements into "place-based" and "contextual" requirements.

Place-based characteristics include physical or social characteristics which nominated areas should possess, such as current and projected density, employment levels, and transit adjacency. These are requirements which require a certain level of statistical information on the part of nominating localities, and on the part of the MPO which verifies them. I found that in Urban Center Policies, Center Assistance Programs, and Enhanced Activity Center Programs, several place-based characteristics were common. Nine of the eleven regions with Urban Center Policies required employment criteria, and eight of those eleven required population figures. A typical example is the Austin, Texas region's Capital Area MPO Urban Centers Policy. Here, areas are eligible for designation if they would receive 31% of regional population and 38% of regional jobs by 2035 (Capital Area Metropolitan Planning Organization, 2010). Four of the 11 Urban Centers Policies required proximity to transit and high levels of connectivity. These metrics are also prominent in Enhanced Activity Center Programs: SCAG requires . It should be noted that these current features also include forecasted and target metrics: PSRC's new eligibility requirements, for instance, require both current population and employment levels as well as population targets which are developed locally (Puget Sound Regional Council, 2018).

Contextual requirements by contrast include more extensive prior planning for development patterns which match the region's definition of a center. Such requirements involve the completion planning studies, market studies, or other forms of demonstrated stakeholder engagement. Four of the eleven regions with Urban Center Policies I reviewed also require prior planning studies and market studies for eligibility. Some regions are more flexible than others in this criterion: the Bay Area region Metropolitan Transportation

Commission, for instance, accepts evidence of zoning, planning studies, or proof of the other adoption of local ordinances in requests for Priority Development Area designation. The explicit aim is to use this evidence as a way of gauging stakeholder engagement and demonstrated commitment to regional priorities.

Screens and Doors

I grouped eligibility requirements into two categories, screens and doors. Screens are requirements designed to exclude certain areas for consideration; doors are requirements which function as recommendations, and are not binding. In many regions, nomination has been turned down or changes in applications have had to be made because of requirements. This can be desirable or undesirable based on the nature of the drivers of policy, the designation procedures, and other policy elements. Most requirements, like that of Oregon Metro's requirement of prior zoning appropriate to transit, immediately serve to screen out areas without proximity to transit. MWCOG's TPB however is even more restrictive, excluding areas where the combined housing and transportation costs are no more than 45% of area median income.

In most cases these screens serve simply to identify possible priority areas, rather than to exclude certain areas from nomination. However, I found that some regions were remarkable in their effort to keep requirements from becoming screens. The Denver region, for instance, designs requirements to avoid rejecting areas because of their ineligibility. Accordingly it adopted door-like eligibility requirements, making the DRCOG evaluate a designation not on whether it meets baseline metrics, but holistically, as if it were a project

Table 3, Urban Center Policy Place Types and Frequency

MPO	Designations and frequency									Total
ARC	Activity Center	Town Center	Corridor	Regional Center	Other					
	50	48	18	1	2					119
DRCOG	Emerg-ing	Exist-ing	Plan-ned							
	51	47	6							104
DVRPC	Town Center	Rural Center	Suburba n Center	Metro Sub-center	Plan-ned Town Center	Plan-ned Center	Metro-politan Center			
	58	16	12	9	8	2	1			106
HGAC	Neighbo rhood Center	Town Center	Main Street	Regional Center	Urban Core					
	6	5	4	3	1					19
Metro	Town Center	Regional Center	Central City							
	34	11	2							47
MTC	Mixed-Use Corridor	Transit Town Center	Transit Neighbo rhood	Suburba n Center	City Center	Urban Neighbo rhood	Regional Center			
	63	37	30	26	15	11	5			188
MWCOG TPB	Urban Centers	Dense Mixed Use Centers	Suburba n Multi-Use Centers	Close-in and Urbanizi ng Centers	Revitaliz ing Urban Centers	Satellite Cities				
	No data yet									144
PSRC	Urban Growth	Manu-facturin g / Industri al								
	29	23								52
SANDAG	Commu nity Center	Mixed-Use Transit Corridor	Town Center	Special Use Center	Urban Center	Rural Village	Metro-politan Center			
	75	54	50	16	10	6	1			212
WFRC	Village	Boulev ard	Town	Industri al Center	Urban	Job Center	Special District	Main Street	Metro	
	79	39	33	16	12	10	10	8	1	208

Note: Other policies and center programs for which data was not available were excluded.
Source: Most recent RTPs and center shapefiles from MPO GIS departments.

proposal (Denver Regional Council of Governments, 2017). WFRC came to the same conclusion and uses eligibility metrics as doors.

Links to Regional Geography

In addition, I found three of the eleven Urban Centers Policies allow centers to be eligible only if their characteristics correspond to one of the categories already specified by a regional place-type geography. If a proposed center does not reflect one of the Atlanta Regional Commission's place type, it may be sent back for revision. DVRPC also evaluates proposals in this way. If place types act as screens, this practice can potentially place regional governments and localities in difficult positions if place types are not varied enough: The Puget Sound Regional Council makes a stark distinction between manufacturing and industrial centers and growth centers. But many areas in the Seattle region arguably straddle this line between the two. Accordingly in PSRC's revision of its centers policy, it looked carefully at the adoption of several different kinds of place type. While deciding not to multiply their place types, the MPO did elaborate eligibility requirements designed to accommodate this problem (Puget Sound Regional Council, 2018)..

5. Place Types

Regions reviewed in this study use a range of place definitions. I found that regions use place types prior to designation to speak of the potential for land use and transportation connections. Alternatively they can be used after designation as development guides. When a region designates a center, the region identifies it as one of these places within a regional typology. An area becomes a "town center," for instance, within a regional geography of "metropolitan centers," "town centers," "station area communities," "rural centers," and the like, each of which has several characteristics.

I also found that small communities connected to transit centers are a favored place type in regional geographies across many of the MPOs (frequent place types for Urban Center Policies can be found in Table 4, below).

Opportunity Identifiers

As discussed in the last section, regions can use place types within the designation process. Where they do not act as screens, however, the fact that an area conforms to a place type can be used to evaluate its potential outside of transportation planning frameworks which separate land use and transportation planning. In these cases, where they are used as "opportunity identifiers," eligibility requirements remain important to determine the fate of designation, but the place type serves to open discussions of the area's relationship to other centers in the region. Denver region's DRCOG uses place types in this manner. Its place types are temporal, used to inflect growth forecasts, and they supplement the holistic evaluation which is a part of the center approval process. The use of the typology also shows a particular area was not only eligible but also had an opportunity to assume a regional role. In this way it inflected prior regional transportation identifiers for areas of intense transportation activity in to more inclusive designations. Memphis MPO, which retains the activity center designation under a more capacious program, is an instance of this.

Table 4, Place Type Ranges

Designation	ARC	CAMPO	Metro	PSRC	SANDAG	WFRC	Range
Metro-center	30-80+ units/acre, 3-20+ stories, 10,000 jobs per 4 square miles	No designation	250 population + employment units/acre	30 units/acre existing, 85 units/acre planned, 15% mix of these planned, 320-640 acres; high capacity transit similar to rail, high quality/capacity service; market potential, regional role	75 units/acre, 80 employees/acre, commuter rail, LRT, BRT	1-10 FAR, 20-200 units/acre	20-250 activity units per acre, light rail to commuter rail
Station community	10-80+ units/acre, 1-20+ stories	No designation	45 population + employment units/acre	No designation	No designation	.5-2.5 FAR, 10-50 units/acre	10-80+ units/acre
Town center	10-20 units/acre, 1-10 stories	45 population + employment/acre, high capacity or local transit, 100-640 acres	40 population + employment units/acre	No designation	20 units/acre, 30 employees/acre, LRT, BRT, streetcar/shuttle	.5-1.5 FAR, 10-50 units/acre	10-80+ activity units/acre
Rural centers or villages	1-10 units/acre, 1-3 stories	10 population + employment/acre, no transit, 100-250 acres	39 population + employment units/acre	No designation	10.9 units/acre, n/a employees/acre, n/a transit service	No designation	1 units/acre-39 units/acre, no transit-n/a service

Sources: Most recent RTPs and center shapefiles from MPO GIS departments.

Development Guides

Place types can also be used as development guides, however, for use in scenario planning, or in coordinating conformity to statewide planning goals. In a top-down designation process, MWCOG recently revised the place types it identified to reflect a range of development opportunities given the regional role. Each community found a place in the larger regional geography. Similarly, WFRC used types in regional scenarios to present communities with regionally significant roles. Accordingly, the MPO could create planning tools and policy suggestions for different types of communities. Whether either use actually affects the character of the resulting development is, of course, a question.

At the same time, development guides give cohesion which the MPO can use to assist localities in other planning efforts. Atlanta's Livable Centers initiative and the Delaware Valley Regional Planning Council are both able to use place types to show that the region's long term regional plan conforms to statewide growth and environmental frameworks by giving places a place type. PSRC conforms to statewide requirements to dedicate a certain percentage of its funds to rural areas with its "rural center" place type.

Frequent Place Types

Several regions include small "town centers" as place types, which are defined by at least four MPOs as transit adjacent communities areas of about 10-20 units to acre, a population and employment ranging from 20-45 per acre, and .5-1.5 floor to area ratios. Table 4 below shows a wide variety of place types, none of which involve either the vocabulary of transit planning or older vocabularies of service-provision which were used from the 1960s to 1990s. "Activity center" is the only designation with this legacy, and

Table 5, Place Type Ranges

Designation	ARC	CAMPO	Metro	PSRC	SANDAG	WFRC	Range
Metro-center	30-80+ units/acre, 3-20+ stories, 10,000 jobs per 4 square miles	No designation	250 population + employment units/acre	30 units/acre existing, 85 units/acre planned, 15% mix of these planned, 320-640 acres; high capacity transit similar to rail, high quality/capacity service; market potential, regional role	75 units/acre, 80 employees /acre, commuter rail, LRT, BRT	1-10 FAR, 20-200 units/acre	20-250 activity units per acre, light rail to commuter rail
Station community	10-80+ units/acre, 1-20+ stories	No designation	45 population + employment units/acre	No designation	No designation	.5-2.5 FAR, 10-50 units/acre	10-80+ units/acre
Town center	10-20 units/acre, 1-10 stories	45 population + employment/ acre, high capacity or local transit, 100-640 acres	40 population + employment units/acre	No designation	20 units/acre, 30 employees/acre, LRT, BRT, streetcar/shuttle	.5-1.5 FAR, 10-50 units/acre	10-80+ activity units/acre
Rural centers or villages	1-10 units/acre, 1-3 stories	10 population + employment/ acre, no transit, 100-250 acres	39 population + employment units/acre	No designation	10.9 units/acre, n/a employees/acre, n/a transit service	No designation	1 units/acre-39 units/acre, no transit-n/a service

Sources: Most recent RTPs and center shapefiles from MPO GIS departments.

"station community" can be found in early transit oriented development planning in the past: indeed MTA's policies retains the type for continuity (Metropolitan Transportation Commission, 2012).

I found that small regional transit centers are frequent in these regional geographies. Table 4 shows that those which are designated smaller nodal communities with transit connections are frequent designations, compared to large urban areas or suburbs without distinct town centers: "town center" indeed is a frequent designation, along with "transit town center" or "station community." Accordingly, town center definitions more capacious than other designations: they range in the table from ten people and employees per acre to 80+ (ARC), more than all other indicators considered.

Table 6, Centers and Fixed Guideway Transit Stations

	Number of Designated Urban Centers	Number of Regional Fixed Transit Stations	Existing and Planned Stations Within Centers	Number of Centers with Stations	Percentage of Regional Stations Within Centers	Percentage of Centers Served by Stations
ARC	122	53	48	20	91%	16%
CAMPO	59	9	8	6	89%	10%
DRCOG	104	90	69	27	77%	26%
DVRPC	106	609	193	68	32%	64%
Metro	40	183	44	16	24%	40%
MTA	170	449	331	83	74%	49%
MWCOG TPB	141	156	106	77	68%	55%
PSRC	38	84	40	14	48%	37%
SANDAG	212	103	85	49	83%	23%
WFRC	208	96	63	42	66%	20%

Source: Center for Neighborhood Technology TOD Database, MPO GIS Departments. Note: number of Designated Centers in Shapefiles differs from 2017 counts used elsewhere.

6. Spatial characteristics

Spatial analysis of Urban Center Policies shows that regional urban center designations overlap with transit systems, but that centers cover more area than those of regional fixed transit systems. On average, 65% of fixed guideway transit stations were located within center boundaries, and overall 34% of centers were served by fixed guideway transit (see Table 7 below). These findings confirm findings in my survey of place types that while station areas are a prominent feature of regional center place typologies, so too are centers which may be suburban town centers.

I found that certain areas are more oriented around station area planning than others; at the same time certain areas include more fixed transit station areas within their centers as is visible in Table 8. ARC center designations capture most of the fixed transit station areas within its system but remains a policy which is oriented towards designating

only 84% of its areas outside these existing and currently planned fixed transit station areas. Similarly, DRCOG captures 77% of its current and planned fixed transit station stops within centers, but designates 74% of its areas outside of these fixed transit station areas. These results of course exclude buses. But it is clear that the most station-area based policy, MWCOG TPB, naturally designates over 55% of its centers around fixed transit station stops and has 68% of its current and planned fixed transit stations within centers, by contrast.

In short, station area planning provides a template for many of the types of policies, but the prioritization of investments also away from fixed transit also shows that policies (at least urban center policies) are attempting to embrace a variety of localities.

7. Incentives

Localities receive incentives for adopting a centers policy in Urban Center Policies and Center Assistance Programs I studied, as well as some of Enhanced Activity Center Programs. I found that these incentives involve funds and technical assistance usually using some combination of Federal and State funds, though local sales tax and tolls could also be used. Six of the eleven Urban Centers Policies packaged Federal Transportation Improvement Program (TIP) dollars into grants. The center designation process then also became a version of a grant competition for awards ranging from $20,000 to $200,000. Other areas used a TIP allocation process, where 3-40% of TIP funds could be allocated for the project. I found that these carrots were used despite the ability of regions to use sticks: no center I found seeks to use its the ability to revoke designation should an area not be in conformity with the regional plan, though they had that authority.

Table 7, Incentives of Urban Center Policies

MPO	Center-related TIP criteria	Grant program
ARC	TIP sets aside funds for grant program.	Uses TIP funding and state funds. TIP monies for 80% of the cost of a project (20% match). Roughly $1 million annually, $500 million total in the 2035 RTP.[1]
CAMPO		50% of Surface Transportation Program-Metropolitan Mobility set aside as funding to support projects around centers. [2]
DVRPC	13% TIP criteria devoted to centers, other criteria for TOD.	Through fiscal years 2002-2012, DVRPC also distributed $12.4 million to over 140 communities throughout the region for TOD planning grants. [3]
DRCOG	6% of regional TIP criteria for projects serving urban centers; 4% of regional TIP criteria for projects near centers for which local government has adopted policies to support center development; 3% of regional TIP criteria for projects located within urban growth boundary/area. [4]	
HGAC	TIP priority for livable centers. $56,814,325 of TIP funding since 2008 have been dedicated to centers. [5]	
Memphis MPO	14% of TIP criteria for centers. [6]	
Metro	25% criteria for projects that produce congestion relief; 40% points for support of regional land-use goals. 25% criteria for projects that produce congestion relief; 40% points for support of regional land-use goals. Construction excise tax of between $1.8 and 2.5 million for redevelopment projects, land acquisition, planning. [7]	
MTC		Priority Development Area Technical Assistance Program for projects within PDA areas. [8]
MWCOG TPB		Transportation Land Use Technical Assistance Program funds.[8]
PSRC	70% of surface transportation fund, congestion management, air quality criteria based on benefits to centers; 50% congestion mitigation and air quality criteria based on benefits to centers; 70% FTA fund criteria based on centers[9]	
SANDAG	5% of highway corridor criteria for projects serving centers and 15% relate to livability and accessibility goals; 20% of high-occupancy vehicle criteria for projects that serve regional and/or transit corridors; 15% of Federal Transit Administration criteria for projects that serve regional centers TransNet Sales Tax funded Smart Growth Incentive Program of $280 million over 40 years. [10]	
WFRC		Funds for transit-land use connections from the Wasatch Front and UDOT's Center Assistance Program. [11]

[1] ARC TIP Evaluation Framework (Atlanta Regional Commission, 2017)
[2] CAMPO FY 2017 - 2020 Transportation Improvement Program (Capital Area Metropolitan Planning Organization, 2016)
[3] DVRPC Fiscal Year 2019 Transportation Improvement Program for Pennsylvania FY19-FY22 (Delaware Valley Regional Planning Commission, 2018, p. 22)
[4] 2040 RTP (Denver Regional Council of Governments, 2011)
[5] Houston Galveston Area Council Livable Centers Strategy Study (Houston-Galveston Area Council, 2009)
[6] Memphis MPO FY 2017-20 Transportation Improvement Program Appendix (Memphis Urban Area Metropolitan Planning Organization, 2016b)
[7] Regional Framework Plan (Oregon Metro, 2015), State of the Centers Report (Oregon Metro, 2011)
[8] MTC 2017 TIP (Metropolitan Transportation Commission, 2016)
[9] MWCOG 2017 Constrained Long Range Plan (Metropolitan Washington Council of Governments, 2016), 2017-2022 TIP (Capital Area Metropolitan Planning Organization, 2016)
[10] 2017-2020 TIP Overview (Puget Sound Regional Council, 2016)
[11] 2050 RTP (San Diego Association of Governments, 2011)
[11] WFRC 2018-2023 TIP (Wasatch Front Regional Council, 2017)

Incentive Sources

Incentive sources are of varying types. Federal flexible funds like CMAQ, and state funds (either dedicated to these programs or included as part of STIPs), Other forms of funding, such as property taxes, sales taxes (used by SANDAG), or tolls (used by CAMPO and NOACA) are also available. Many of these are present at the same time. Incentive structures will of course be determined and constrained by funding sources and availability, and regional programs can be seen to prioritize their investment in these strategies by their use of specific funding sources. Table 6 below summarizes these incentives for urban center policies, and Appendix C contains incentives for all policies.

Variation in Funds

Many regions incentivize participation in centers policies through a TIP fund allocation process. TIP criteria may differ depending on project type and funding source, and ranges between 3-40% of certain funds for project type. The process involves scoring projects higher through their ability to address centers policy. An example is provided by the Delaware Valley Regional Planning Organization. The MPO creates a hybrid GIS layer is produced with centers and within its quarter-mile receive 1 point in the evaluation process. Further distances receive .75 points or .5 points. Projects can be also allocated TIP funds through being connectors to centers, and receive .25 points.

Grant Programs

Many of the Urban Center Policy and Center Assistance Programs reviewed disbursed funding through competitive grant programs. Awards ranged from $20,000 to $200,000

The Atlanta Regional Commission's bundling together of TIP funds for planning studies is the most prominent example of this form of funding. The MPO sees this as a departure from TIP allocation, and a more effective way of coordinating land use and transportation planning (LeBeau, 2011). All Center Assistance Programs dedicate funding through the grant competition process. Furthermore, some Enhanced Activity Center Programs offer pilot project competitions which receive grants, like SCAG's High Quality Transit Areas.

Revocation and Revision

Revocation of center designations is not common, though approval authorities have the power to change them. Revision of center designations is common (See Appendix B, Table 7, Designation Removal and Revision). DVRPC removed a center during the designation process. Most revise center designations during annual updates, as with SANDAG or DRCOG or ARC: boundary adjustments in the Denver region happen occasionally.

I found regions to be unclear about what would happen should a locality not conform to regional policy. Regional procedures in regions like ARC's or MTC make one-time incentives and collaborative activity which allows for targeted investments, rather than monitoring, a priority. That said, in many regions localities appear interested in whether regional policy is working: as mentioned above, study areas in ARC complete Five Year Updates which monitor the effectiveness of the policy in the area.
designated top-down, since, as with both DVRPC or MWCOG, discussions with localities occur prior to any change with a designation. Several governments, like PSRC, have stated plans to examine the total number of centers in their larger designation revision process (Puget Sound Regional Council, 2018).

III. CONCLUSIONS AND RECOMMENDATIONS

In this section, I draw conclusions from the above findings. First, I present several general conclusions about the elements of centers policies. I then discuss the conclusions in terms of implications for the future of metropolitan collaborative planning. In general, regions involve localities in many discussions of regional priorities if they designate centers using visions and project-based designations, if they are contextual in eligibility requirements, and if they package incentives through grants.

1. Policy Elements

There are several general conclusions about each policy element. On the whole, regions with Urban Center Policies have policy elements which seek to involve localities in metropolitan planning. Urban Center Policies adopt policies : Regions

- Regions adopt one of three policy models:
    - Urban Center Policies, which incentivize investments in centers through formal designation procedures.
    - Center Assistance Programs do not involve designation or its attendant coordinating activities.
    - Enhanced Activity Center Planning, adopts goals and policy themes similar to those of Urban Center Policies but use traditional MPO planning techniques to get there, and do not dedicate incentives to these areas nor rely on designation procedures.
- Regional drivers of center policy include growth management goals and removing barriers for increased economic activity in areas and mixed-use development. Transit

Oriented Development and Air Quality concerns also motivate regions in shaping center policies.

- Many Urban Center Policies possess designation procedures which trend towards voluntary, “bottom up,” local nomination of areas, rather than “top down” nomination by the MPO. MPOs use regional visioning and scenario planning to discuss designations like regional priority areas, the nomination of areas is structured around the need for concrete improvements to that area; and the high number of approved designations does not necessarily reflect the voluntary or top down nature of Urban Center Policies.
- Center eligibility can be a process for serious project evaluation or a process that simply involves localities more in plans. Across the MPOs, eligibility mostly consisted of the latter: baseline requirements designed to approve many areas, rather than screen them out; MPOs designed requirements to approve nominated areas which demonstrate local commitment to the regional policy.
- Regions use place types to discuss the potential for land use and transportation connections in proposed centers. Regions also use them after center designation as development guides. Small communities connected to transit centers tend to be a favored place type in regional geographies across many of the MPOs.
- Regional urban center geographies capture transit systems well, despite including many more areas than those of regional fixed transit systems. On average, 65% of fixed transit was located within center boundaries in Urban Center policies for which data was available, and overall 34% of the centers in these policies were served by fixed guided transit.

- Regions have incentives of grants ranging from $20,000 to $200,000 TIP allocation processes dedicating anywhere between 3-40% of criteria to center related projects.

2. Metropolitan Collaborative Planning

Overall, I think it is clear that regional collaboration can be encouraged or discouraged by certain changes in policy elements. In reviewing policies and interviews I noted where discussions were most frequent or regular and included them in my findings. Whether discussion leads to genuine collaborative planning is a question I will not settle here. However, I think is clear that regions with urban centers increase the intensity of discussions about regional planning. It is also clear that::

- Urban Centers Policies with regional visioning and project based designations involved regular meetings between localities and regional governments, at least as far as could be gathered from interviews and policy documents.
- Clear designation procedures create a forum for discussions of local involvement and discussion of regional equity. PSRC's clear designation processes and relative few approved centers were an example of this. On the other hand, the Atlanta region's clear bottom-up designation procedures and project based designation allows the MPO to meet with localities about projects.
- Making eligibility requirements contextual allows a region to gather information about a center, the economic information necessary for Center Assistances, and its planning history. PSRC's requirement of market studies as an eligibility requirement is an example of this. Furthermore, the use of requirements as doors rather than screens invites discussions with localities over the approval process. This is the case with DRCOG's evaluation of proposed centers.

- Adopting a robust array of place types allows regions to articulate how regional policy meets statewide and Federal as well as local goals. This is the case in ARC and SANDAG.
- Focusing regional policy on station areas allows DRCOG and MWCOG to ; including a wide area of place types outside of center areas allows ARC and DVRPC to include many small “town center” communities.
- Incentives with grant programs allow studies to evaluate projects. The refusal to revoke center designations involves localities in revision meetings and more deliberations about designation.

3. Recommendations

Based on this study, I recommend that MPOs need to adopt the proper type of program for their region, and reorganize their procedures around the policy elements that which are most effective. That said, several overall areas stand out where policies could greatly improve:

- Make the elements and type of regional policy clearer. Many regional governments do not articulate the formality of their designations and offer incentives merely as a bonus. Governments have a choice to either adopt voluntary procedures to incentivize development or simply indicate that projects in areas would be a good idea. MPOs should adopt? a formal Urban Centers Policy, rather than a Land Use and Transit Connection Program or an Enhanced Activity Center Planning program if the aim of the region is to clearly spell out program requirements and fund projects across a wide geography, rather than assist in major development projects.

- Make goals and procedures clearly overlap with eligibility requirements and incentives. It can be unclear, especially in policies without designation procedures, whether the regional shift towards planning around livability and amenities really intends to signal new regional policy. Regions can make this clearer by articulating goals in line with local motivators for transit oriented development and economic activity.
- Adopt voluntary designation policies around a project-based model which results in clear products, if the MPO aspires to multi-year involvement in local projects rather than TIP incentives. The amount of centers designated may have more to do with the characteristics of the region and the policy.
- Adopt contextual, open door eligibility requirements to encourage holistic evaluation rather than screening out areas. Center eligibility can be a process for serious project evaluation or can be a process which simply leads to approval for localities.
- Policy direction can be altered in the number of places through place typologies. MPOs can achieve greater integration of suburban areas into metropolitan policymaking through widening town-center typologies.
- Package TIP moneys as competitive grants for planning studies and/or pilot projects like ARC; consider sales tax and toll initiatives to fund improvements; consider efforts to leverage state funds and partnerships as in ARC, Metro Council, or SGAG.

4. Further Study

Further study should investigate the performance of Urban Center Policies compared to Center Assistance Programs. If the latter are more successful in getting sporadic but

crucial projects developed, then less focus on planning around designation procedures and requirements may be needed for collaborative metropolitan planning.

APPENDIX A: LITERATURE REVIEW

1. Overview

This chapter organizes findings of existing studies on the topic of collaborative planning for metropolitan centers. It also narrates the history of major evolutions in center policy which inform policy selection across regional governments.

Two major priorities in regional planning dominate the discussion of centers in MPO policy: the prominence of growth management and livability issues as a framework for metropolitan land use and infrastructure priorities; and the shift of regional planning practices towards collaborative governance.

2. Metropolitan Governance and Planning

Regional Institutions Evolve to Embrace Center-oriented Frameworks

Historians of regional policy in the United States regard MPOs as institutions which detached themselves from questions of land use and subsidized suburbanization and sprawl (Brenner, 2002). However, Lewis and Knapp argue that regional policy has evolved in key metros to integrate transportation and land use connections and open up the possibility that regional municipal planning may be brought in line with regional environmental planning (Lewis & Knapp, 2011). Growth management measures within planning institutions have been adopted to encourage a more efficient use of regional resources or

respond to environmental damage caused by sprawl (LeBeau, 2011; San Diego Association of Governments, 2013).

A key motivator in this to reflect the organization of regional development strategy around the reality that regional economies are tightly-knit (Pack, 2002). Funding for regional governments and their leadership have changed to resist the straightforward dedication of transportation dollars to surface transportation around a state and national highway network, and towards integrate increasingly flexible funding options for types of development which will yield transportation benefits across a region as a crucial result of economic prosperity within it (Rosan, 2016). A feature of the "new regionalism," as it has been called, is to support these developments (Brenner, 2002; Foster, 2001; Piro et al., 2017).

Regional Planning Approaches Change Regional Project Eligibility

The use of centers also grows out of a history of transportations systems planning approaches integrating land use decisions. Recent histories of MPO planning emphasize that while in 1960s Transportation Improvement Project (TIP) moneys were largely distributed to MPOs for road projects, they also created the institutional framework for transportation and land use connection, as they were required to plan for "urban areas." The passage of the Clean Air Act Amendment of 1990 and the Intermodal Surface Transportation Efficiency Act in 1991 saw regional governments as crucial transit planning to stem unsustainable or inefficient growth (Weiner, 2013). Surveys of over 80 regional and sub-regional planning processes could find that most used land-use transportation planning procedures (Bartholomew, 2007).

Crucial to this shift has been the embrace by certain regional governments of the development of higher-density, mixed-use development close to areas highly served by transit (Belzer & Autler, 2002). Transit Oriented Development (TOD) has had a number of benefits of use for expensive-to-maintain transportation systems, regional economies, inequitable geographies, and the environment, including better service from multiple modes of transit, swifter transportation to employment centers, a multitude of housing options, and the reduction of vehicle miles traveled (Cervero, 2003). Market demand for the amenities provided by transit oriented development, too, can encourage their adoption (Dunphy, Cervero, Dock, McAvey, & Porter, 2009). Especially as transportation technology evolves , centers are also a regional tool may be more flexible than large scale transit-oriented development projects and planning around rapid transit systems, which involve investment with long term risks (Cervero, 2004). However regional TOD planning is fraught with issues of scalability, political support, which may have required new forms of regional coordination (Zimbabwe & Anderson, 2011).

Changes in Conception of Regional Geography around Livability

MPOs use of collaborative metropolitan planning for centers has been the subject of several major studies and focused on regional planning for livability. Since the Federal Government's pivot in the late 1990s to a Livable Communities Initiative framework for context sensitive transportation planning (Federal Transit Administration, 1999), many regional plans are now centered around creating livable areas which are economically resilient because of the strength the regional economy (National Association of Regional Councils, 2009). Either this is because they have immense attractiveness to human capital,

or because amenities as well as efficiently managed development preserving open space produces resilient forms of economic activity (Glaeser & Shapiro, 2003).

3. Metropolitan Collaboration and Policy Collaboratives

Policy Network Formation and Visioning

Though environmental planning dominates discussions of collaborative planning, Innes and Booher discuss its applicability to metropolitan scenarios, as the line blurs between policymakers concerns in both areas (Innes & Booher, 2010). Metropolitan planning is increasingly involved in scenario planning and visioning processes which involve collaboration as outlined by Ansell and Gash and Margerum (Ansell & Gash, 2007; R. D. Margerum, 2011).

However, regional governance may not institutionally be equipped for these concerns (Foster & Barnes, 2012). Furthermore, as Allred and Chakraborty point out, it is unclear whether outcomes actually follow from its collaborative efforts: an analysis of SACOG's Regional Blueprint showed that significant deviations from regional visions outlined in scenario planning processes occurred before any development actually happened, and led to land use patterns which may not reflect the vision (Allred & Chakraborty, 2015).

It is unclear whether collaboration at the policy level in fact may be free of many limitations (Dutterer & Margerum, 2015). Accordingly, region wide scenario planning may merely be a "fig leaf" covering over typical MPO planning procedures (R. D. Margerum, 2005). This problem of whether policy level collaborative exercises effectively translate into policy level collaboration which lead to results is prominent. Cases have been made that

Wasatch Front Regional Council's Envision Utah acts indeed as collaboratives with policy effects (Matheson Jr., 2011; Simonson, 2010). Yet in studies of their implementation it is not yet clear whether development patterns have significantly changed from may issue from voluntary planning efforts in WFRC (R. Margerum, Lewis, Bartholomew, Parker, & Dobrinich, 2017).

Regardless, it is clear that MPOs institutionally involve many opportunities for interjurisdictional coordination often involving those which have been identified in environmental collaborative networks, together with all the attendant risks (Berardo & Scholz, 2010).

Incentives and Implementation

It is outlined by Lewis how attention to regional economies already described above has made for planning efforts at the regional scale more and more likely to invest in targeted developments which help regional economies cohere. Many regional government assistance and incentives are bundled around this, since these compact, mixed-used developments have many barriers to development, and require increased support from governments (Schwanke, 2016, p.). Local governments, however, may be less than willing to participate in regional programs, and there is a long documented history of regional efforts to respect local control issuing in conflicts rather than cooperation (Gerber & Loh, 2011; Rodíguez & Godschalk, 2003). Regional governments craft incentives accordingly around these efforts (R. D. Margerum, Brody, Parker, & McEwen, 2013).

4. Summary

Analytic model

This review of regional institutions' embrace of transportation land use connections, the use of transit technologies in regional planning, changes in conception around livable regional geographies shows that MPO policy on centers is impacted by five major categories of policy developments:

- Governance
    - Changes in governance and land use strategies
    - Changes in planning techniques and designations
    - Changes in conceptions of regional geography
- Collaboration
    - Changes in motives for regional planning
    - Changes in policy networks and incentives

These topics isolate the main axes of center policy along which many MPOs may be compared: 1) designation process and institutions, 2) regional eligibility for these changes, 3) regional geography and its 4) drivers and 5) incentives.

APPENDIX B: SUPPLEMENTARY TABLES

Table 6, Policy Themes

	ARC	CA-MPO	DR-COG	DV-RPC	Mem-phis MPO	Metro	MTC	MW-COG TPB	PSRC	SAN-DAG	WFRC	Total
Land use efficiency/growth accommodation		X	X			X	X	X	X		X	7
Compact development			X	X		X	X	X	X			6
Mixed-use		X	X	X	X					X	X	6
Multi-modality		X	X	X	X						X	5
TOD			X				X	X		X		4
Amount of employment and economic activity	X		X					X			X	4
Values/character	X		X	X							X	4
Density	X		X							X		3
Economic development	X					X			X			3
VMT reduction		X	X	X								3
Activity/Vibrancy		X				X					X	3
Livability	X	X				X						3
Housing	X	X										2
TLU Connection		X						X				2
Air quality/GHG reduction	X		X									2
Connectivity					X	X						2
Mixed-income				X								1
Redevelopment					X							1
Travel reliability					X							1
Open space preservation										X		1
Water consumption			X									1
Walkability			X									1

Source: Themes are derived from a content analysis noting the presence or absence of these terms in center definitions and surrounding statements in RTPs, combined with contextual information gained from interviews.

Table 7, Designation Removal and Revision

	Have Centers Been Removed?	Centers Revised, Boundaries Adjusted	Revision Cycles	Major Center Revision Process in the Future?	Removal Permission Process
ARC	No	Yes	Yes	Unclear	Addressed in cycles
CAMPO	No	No	No	Unclear	Unclear
DRCOG	No	Yes	Yes	Unclear	Yes
DVRPC	Yes	Yes	Yes	Unclear	Addressed in cycles
Memphis MPO	No	No	No	Unclear	Unclear
Metro	No	No	Yes	Unclear	Addressed in cycles
MTA	No	Yes	Yes	Unclear	Addressed in cycles
MWCOG TPB	No	Yes	No	Yes	
PSRC	No	Yes	No	Yes, just completed	Yes
SANDAG	No	Yes	Yes	Yes	Addressed in cycles
WFRC	No	Yes	Yes	Unclear	No

Table 8, Approval Board Composition

	Executive Committee	Regional land-use authority	Regional transit planning powers
ARC	Board, 39, approved by Transportation and Air Quality	No	No
CAMPO	Board, 20	Yes	Yes
DRCOG	Board, 57 members	No	No, RTD
DVRPC	Board, 18	Unclear	Unclear
Memphis MPO	Board, 19	No	Unclear
Metro	Elected council, 7 members	Yes	No, Tri-Met
MTC	Board, 21	Unclear	Yes
MWCOG TPB	COG Transportation Policy Board, 31	Unclear	Yes
PSRC	Board, 36 members	Yes	No, transit-agencies
SANDAG	Board, 24 members	No	Yes
WFRC	Council of 27		Unclear

APPENDIX C: SUMMARY OF CENTER POLICIES

Table 19, Summary Table of All MPO Policies

MPO	Location of Headquarters	Abbreviation	Center Designation	Policy Model	Definition	Designation process	Eligibility	Place Types	Incentives
Atlanta Regional Commission	Atlanta, Georgia	ARC	Regional centers and places	Urban Center Policy	"Centers and Places that give residents and employers a sense of place… each center and place has different needs and development issues and priorities."[1]	Bottom up. Centers identified as eligible by ARC, areas can apply for grants.	A project is eligible if at least 50% of the project limits is within an LCI study area, or the plan has been adopted by a local body, or demonstrates concurrency, if it has been listed in a regional Action plan.	Activity Center, Town Center, Corridor, Regional Center, Other	Uses TIP funding and state funds. TIP monies for 80% of the cost of a project (20% match). Roughly $1 million annually, $500 million total in the 2035 RTP.[12]
Boston Regional MPO	Boston, Massachusetts	BRMPO	Livable Communities	Enhanced Activity Center Program	-	None	Transit adjacency, livability metrics.	-	Technical assistance in collaboration with Metropolitan Area Planning Council Technical Assistance Program usually of $25,000-$60,000[13]
Capital Area Metropolitan Planning Organization	Austin, Texas	CAMPO	Centers	Urban Center Policy	Areas with "a mix of land uses that support transit, bicycling, and walking[,] optimiz[ing] peoples' ability to take fewer and shorter vehicle trips, reducing vehicle miles traveled."[2]	Local jurisdictions submit formal procedures for new centers to be adopted, approved by board. Visioned through region.	Population + employment: expected to receive 31% of regional population and 38% of regional jobs by 2035	-	50% of Surface Transportation Program-Metropolitan Mobility set aside as funding to support projects around centers. [14]

Capital District Transportation Commission	Albany, New York	CDTC	Linkage Areas	Enhanced Activity Center Program	-	None	Towns with transit communities.	-	Grant funds of $95,000 maximum to priority activity centers with livability comoponents. $6.3 million in federal, state and local funds have been committed to the Linkage Program since its inception in 2000[15]
Chicago Metropolitan Area for Planning	Chicago, Illinois	CMAP	Livable Communities	Center Assistance Program	-	None	-	-	Technical Assistance Program.[16]
Delaware Valley Regional Council	Philadelphia, Pennsylvania	DVRC	Center Planning Areas	Urban Center Policy	"Focal points in the regional landscape to reinforce or establish a sense of community" with "more compact, mixed-use, and mixed-income development [intended to] shorten distances between destinations, and encourage alternative and active forms of transportation."[3]	Jurisdiction meets with DRCOG staff and evaluation panel, DRCOG's board approves the process.	Six people and three employees per developed acre, overlap with recognized planning area and center designations, or identification in Classic Towns program or in the New Jersey State Development and Redevelopment Plan.	Town Center, Rural Center, Suburban Center, Metro Sub-center, Planned Town Center, Planned Center, Metropolitan Center	13% TIP criteria devoted to centers, other criteria for TOD.Through fiscal years 2002-2012, DVRPC also distributed $12.4 million to over 140 communities throughout the region for TOD planning grants. [17]

Denver Regional Council of Governments	Denver, Colorado	DRCOG	Center Planning Areas	Urban Center Policy	Areas which will "absorb a significant amount of growth and offer more convenient accessibility via bus or rail transit and opportunities for shorter nonmotorized trips via walking and bicycling."[4]	Center areas identified as eligible, local government approaches to apply for grants.	Existing and proposed housing and employment densities, efforts to create centers that are pedestrian- and transit-friendly, efforts to create range of housing, employment, service opportunities for all ages, sustainability goals like reducing VMT and reducing GHG, outreach, local commitment; rural town centers, less than two square miles of urban area, served by central water and sewer, separated from larger urban area, incorporation, planned development	Emerging, Existing, Planned	6% of regional TIP criteria for projects serving urban centers; 4% of regional TIP criteria for projects near centers for which local government has adopted policies to support center development; 3% of regional TIP criteria for projects located within urban growth boundary/area.[17]
Houston-Galveston Area Council	Houston, Texas	HGAC	Livable Centers	Urban Center Policy	"Places where people can live, work, and play with less reliance on their cars. Livable Centers are compact and mixed-use, are designed to be walkable, and are connected and accessible by multiple modes."	Bottom up. Areas apply for studies.	Areas with access to transit.	Urban core, regional center, town center, neighborhood center, main street	TIP priority for livable centers. $56,814,325 of TIP funding since 2008 have been dedicated to centers.[18]

Memphis Metropolitan Planning Organization	Memphis, Tennessee	Memphis MPO	Centers	Urban Center Policy	"Investment contexts" of certain "scales" which will receive "improved mobility and travel time reliability on corridor connections [...] and last-mile connectivity," "redevelopment opportunities, multimodal connections and access to a mix of business, retail and residential uses," or "improved system operations and multimodal access to community resources."[5]	Board designated.	Forecasted density (employment and population within top half of densities in region), transit capacity, land use mix, housing and affordability costs do not exceed 45% of target, designated in local plan.	-	14% of TIP criteria for centers. [19]
Metro (Oregon)	Portland, Oregon	Metro	Centers	Urban Center Policy	"Centers of urban life in the region." "Compact, vibrant communities that use land efficiently, maintain connections to the natural environment and promote strong local and regional economies."[6]	Cities or counties propose new centers or changes to designation, Metro approves designations.	Place types used for eligibility requirements. Mix of land uses and housing types, accessibility, zoning for high capacity transit or walkable mixed-use, served by transit, adopted plans for multimodality and connectivity, as well as parking.	Town Center, Regional Center, Central City	25% criteria for congestion relief; 40% for support of regional land-use goals. 25% criteria for congestion relief projects; 40% for support of regional land-use goals. Construction excise tax of between $1.8 and 2.5 million for redevelopment projects, land acquisition, planning. [20]
Metro Council of Governments	St. Paul, Minneapolis	Metro Council	Livable/Transit /Activity Centers	Center Assistance Program	-	None	-	-	TOD competitive grant program funds up to $2 million.[21]

Metropolitan Transportation Commission	San Francisco, California	MTC	Priority Development Areas	Urban Center Policy	"Existing neighborhoods [...] served by public transit [which] have been identified as appropriate for additional, compact development."[7]	Applications for PDAs are submitted to MTC for approval, and it is then sent to the Regional Planning Commission and the Executive board of the Association of Bay Area Governments for adoption.	Jobs and housing metrics and forecasts, prior planning, stakeholder engagement and participation plan is required.	Mixed-Use Corridor, Transit Town Center, Transit Neighborhood, Suburban Center, City Center, Urban Neighborhood, Regional Center	Priority Development Area Technical Assistance Program for projects within PDA areas. [22]
Metropolitan Washington Council of Governments Transportation Policy Board	Washington, D.C.	MWCOG TPB	Regional Activity Centers	Urban Center Policy	"Major housing and jobs centers." "The places that will accommodate much of the region's growth in the coming decades"[8]	MPO designates centers, gathers input from Planning Directors Technical Advisory Committee, meeting with jurisdiction to confirm centers.	Identification in local land use plan, above-average densities, mixed-use development, existing or planned high-capacity transit, a grid of connected streets, or combined housing and transportation costs of no more than 45% of Area Median Income.	Urban Centers, Dense Mixed Use Centers, Suburban Multi-Use Centers, Close-in and Urbanizing Centers, Revitalizing Urban Centers, Satellite Cities	Transportation Land Use Technical Assistance Program funds.[23]
North Jersey Transportation Planning Authority	Newark, New Jersey	NJTPA	Emerging Centers	Center Assistance Program	-	None	-	-	Competitive technical assistance program funds, NJDOT Transit Village Program funds. [24]
Northeast Ohio Areawide Coordinating Agency	Cleveland, Ohio	NOACA	Strategic Investment Areas	Center Assistance Program	-	None	-	-	Transportation for Livable Communities Initiative grants up to $500,000. [25]

Pinellas Planning Council and Metropolitan Planning Organization	Tampa, Florida	Pinellas Forward	Activity Centers	Enhanced Activity Center Program	-	None	-	.-	TIP priority for activity centers. [26]
Puget Sound Regional Council	Seattle, Washington	PSRC	Growth / Manufacturing-Industrial Centers	Urban Center Policy	Locations "characterized by compact development" and which function "as strategic places to receive growth and use resources efficiently." Are the "primary framework for regional transportation and economic development planning."[9]	Centers identified locally, designated by county planning policy, then advance to regional designation, reviewed by Growth Management board and Executive Board.	Centers located within appropriate regional geography classifications; population and employment thresholds.	Urban Growth, Manufacturing / Industrial	70% of surface transportation fund, congestion management, air quality criteria based on benefits to centers; 50% congestion mitigation and air quality criteria based on benefits to centers; 70% FTA fund criteria based on centers.[27]
Sacramento Council of Governments	Sacramento, California	SACOG	Mixed-Use Center	Center Assistance Program	-	None	-	-	Technical assistance with state funds. [28]
San Diego Association of Governments	San Diego, California	SANDAG	Smart Growth Opportunity Areas	Urban Center Policy	Areas which have the potential to "locat[e] higher density and mixed-use development close to existing, and planned transportation infrastructure."[10]	Local jurisdictions identify, coordinate with SANDAG who designates them existing, planned, potential.	Three factors: density, employment (numeric and reflective of economic report), and level of transit service (determined holistically. Place types used for eligibility requirements.	Community Center, Mixed-Use Transit Corridor, Town Center, Special Use Center, Urban Center, Rural Village, Metropolitan Center	5% of highway corridor criteria for projects serving centers and 15% for livability and accessibility goals; 20% of high-occupancy vehicle criteria for transit corridors; 15% of Federal Transit Administration criteria for centers,TransNet Sales Tax funded Smart Growth Incentive Program of $280 million over 40 years.[29]

Southern California Association of Governments	Los Angeles, California	SCAG	High Quality Transit Areas	Enhanced Activity Center Program	-	None	Half-mile from transit line or identified specifically in the RTP, 15 minute commute times at peak hours.	-	Sustainability planning grants of $200,000, technical assistance, for pilot programs.30
Wasatch Front Regional Council	Salt Lake City, Utah	WFRC	Urban Centers	Urban Center Policy	"Historical and emerging regional destinations of economic activity," largely defined in terms of "catalytic" sites for "multi-modal mixed-used development."[11]	They are "self-assessed" by local tools: market analysis guides, community development guidebook, and assistance from the Wasatch Council, Envision Utah, and the UDOT, approved by the WFRC.	Areas are identified by the region and no eligibility requirements are attached. However, certain 10 acre areas will be identified as activity areas in scenarios if they fall within regionally high household and employment forecasts.	Village, Boulevard, Town, Industrial Center, Urban, Job Center, Special District, Main Street, Metro	Funds for transit-land use connections from the Wasatch Front and UDOT's Center Assistance Program. [31]

[1] Plan 2040 (Atlanta Regional Commission, 2011)
[2] 2040 RTP (Capital Area Metropolitan Planning Organization, 2015)
[3] 2045 RTP (Delaware Valley Regional Planning Commission, 2017)
[4] 2040 RTP (Denver Regional Council of Governments, 2011), 2017 Metro Vision 2035 Growth and Development Supplement (Denver Regional Council of Governments, 2012)
[5] 2040 RTP (Memphis Urban Area Metropolitan Planning Organization, 2016a)
[6] Regional Framework Plan (Oregon Metro, 2015), State of the Centers Report (Oregon Metro, 2011)
[7] Plan Bay Area 2040 (Metropolitan Transportation Commission, 2017)
[8] 2050 RTPP (Metropolitan Washington Council of Governments Transportation Policy Board, 2014); Place + Opportunity (Metropolitan Washington Council of Governments, 2014)
[9] 2017-2020 TIP Overview (Puget Sound Regional Council, 2016)
[10] 2050 RTP (San Diego Association of Governments, 2011)
[11] Wasatch Choice 2040 (Wasatch Front Regional Council, 2010)
[12] ARC TIP Evaluation Framework (Atlanta Regional Commission, 2017)
[13] Boston MPO Planning Assistance Program (Boston Regional Metropolitan Planning Organization, 2018)
[14] CAMPO FY 2017 - 2020 Transportation Improvement Program (Capital Area Metropolitan Planning Organization, 2016)
[15] CDTC Linkage Program (Capital District Transportation Commission, 2018)
[16] CMAP Technical Assistance Program
[17] DVRPC Fiscal Year 2019 Transportation Improvement Program for Pennsylvania FY19-FY22 (Delaware Valley Regional Planning Commission, 2018, p. 22)
[18] 2040 RTP (Denver Regional Council of Governments, 2011)

[19] Houston Galveston Livable Centers Implementation Report (Houston-Galveston Area Council, 2016)
[20] Memphis MPO FY 2017-20 Transportation Improvement Program Appendix (Memphis Urban Area Metropolitan Planning Organization, 2016b)
[21] Regional Framework Plan (Oregon Metro, 2015), State of the Centers Report (Oregon Metro, 2011)
[22] MTC 2017 TIP (Metropolitan Transportation Commission, 2016)
[23] MWCOG 2017 Constrained Long Range Plan (Metropolitan Washington Council of Governments, 2016), 2017-2022 TIP (Capital Area Metropolitan Planning Organization, 2016)
[24] NOACA 2040 RTP (Northeast Ohio Areawide Coordinating Agency, 2017)
[25] Forward Pinellas 2040 LRTP (Forward Pinellas, 2015)
[24] NJTPA Emerging Centers Program, NJDOT Transit Village Program (North Jersey Transportation Planning Authority, 2018), (New Jersey Department of Transportation, 2017)
[25] 2017-2020 TIP Overview (Puget Sound Regional Council, 2016)
[26] (Sacramento Area Council of Governments, 2018)
[27] 2050 RTP (San Diego Association of Governments, 2011)
[28] (Southern California Association of Governments, 2016) (Southern California Association of Governments, 2017)
[28] WFRC 2018-2023 TIP (Wasatch Front Regional Council, 2017)

APPENDIX D: SPATIAL ANALYSIS METHODS

I gathered data the TOD Database, a joint project of the Department of Housing and Urban Development, Strategic Economics, and the Center for Transit Oriented Development (Center for Transit Oriented Development, 2018), and shapefiles acquired from GIS departments of each MPO. Some Centers shapefiles provide data on centers only up to certain dates: for instance, CAMPO's file provides data on 39 centers from 2014, while currently 59 centers are found in regional visioning maps, and this is noted where used. The analysis itself followed these steps:

1. Datasets of the above variables were acquired from the TODDatabase
2. Data was cleaned
3. Data was imported into GIS and converted into a point shapefile
4. Centers polygon shapefiles received from MPOs were imported to GIS (where centers were point shapefiles, they were expanded to half-mile buffer polygons)
5. Shapefiles were re-projected into same coordinate reference system.
6. Further data cleaning involved altering the fixed transit station area data to ensure proximate fixed transit station areas are included in centers 1) if the fixed transit station area and the Center had the same name and 2) if they were within .10 mile buffer.
7. Layers were then spatially joined by intersecting location. Two centers served by the same transit stop each have the half-mile fixed transit station area data joined to them.

The joined data was then used to calculate:

- Number of centers served by fixed transit station area and vice versa

- Minimum, maximum, average and median values of census data aggregated to the half-mile of existing and planned fixed guideway transit station areas for each MPO, and for the regional transit system

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