
Appendix 5A : Activity Centers and Regional Mobility Hubs

Activity Centers

Activity Centers are relatively well-defined, large, focused concentrations of high density economic activities. These are typified by mixed use development, particularly those comprised primarily of office and retail.^{1 2} They are places that attract a multitude of uses – hubs where people live, work, shop, learn, and play. Activity Centers are highly accessible, and typically are located close to major transportation facilities such as at or near major highway and/or freeway interchanges, and/or intersections of regional thoroughfares which provide the regional or sub-regional access needed to achieve success.³ They are focal points of economic activity, typically planned for concentrations of compact development. Traditionally the largest activity centers in a region have been the downtown areas of the core city. However, Activity Centers are increasingly locating throughout the community, particularly in suburban areas. They may be institutional complexes such as major government centers, colleges and universities, medical centers. Activity Centers may also cover a wide array of different development types including:⁴

- Industrial Centers
- Large Office Parks, and
- Corridors
- Mixed Use Office and Retail Centers

Mixed Use Centers may also contain a dense mix of residential activities, particularly when the residential activity is an integrated part of the center i.e. housing is a component of the development.

Within the Birmingham area, both existing and emerging Activity Centers have the capacity for significant new growth in conjunction with enhancements to the supporting infrastructure. In general, the character of Activity Centers may vary considerably.

Purpose of Designating Activity Centers

The designation of Activity Centers, particularly those that have regional significance i.e. Regional Activity Centers, is directly tied to the Regional Transportation Plan's goals. This would include Goal 1: Transportation System Sustainability, and Goal 2: Transportation System Integration and Connectivity. That is, the designation of Activity Centers also promotes sustainable, integrated, and connected transportation system. In short, the designation of Activity Centers is intended to assist the Birmingham region in its effort to better coordinate transportation and land use planning, particularly in areas of high economic activity where there is a strong need to address travel deficiencies. Ideally, the designation of Activity Centers will provide guidance for the provision of financial investments that help to achieve balanced and sustainable growth and create livable communities.

To that end, the Birmingham MPO has established criteria for Regional Activity Centers, and identified these areas on a map of the Birmingham metropolitan planning area. The Birmingham MPO did not identify Sub-regional and Local Activity Centers, electing instead to leave these designations to local communities within their adopted comprehensive plans. Following is a description of a Regional Activity Center. Also following are the details of the criteria used to define Regional Activity Centers and the methodology used to identify them.

¹ Dunphy, Robert T. "Chapter 15: Activity Centers" Transportation Planning Handbook. Ed. John D. Edwards. 2nd edition. Washington, D.C. Institute of Transportation Engineers, 1999. 560-598.

² Cervero, Robert. American's Suburban Centers: The Land Use-Transportation Link. Boston. Cambridge University Press, 1989. 16.

³ Garreau, Joel. Edge City: Life on the Frontier. New York. Doubleday, 1991.

⁴ Dunphy, Robert T. Ibid.

Regional Activity Centers, Activity Clusters, and Activity Corridors – are based on regional significance, having specific quantifiable land use criteria such as employment density and total employment, as well as qualitative criteria drawn from the Transportation Planning Handbook. Regional Activity Clusters and Activity Corridors are aggregations of Regional Activity Centers that are located in close proximity to one another along major transportation corridors. They may cross jurisdictional boundaries.

The characteristics of Regional Activity Centers, particularly in suburban areas, include⁵:

- Significant levels of office development, hotels, and other commercial uses (where significant is defined by the intensity of the area’s employment)
- Significant amounts of retail (where significant is defined by total square footage)
- More jobs than residential labor force
- Perceived as a “destination” by businesses and visitors

Regardless of type, all activity centers – regional and local - are appropriate locations for new development and redevelopment. However, the amount, intensity and type of new development will be determined through the local planning process and will depend on a number of factors, including available vacant or underutilized land and the existing transportation network and capacity.

Quantitative Screening Criteria

Employment: 2 or more employers within ¼ mile of each other, each having 1,000 or more total on-site employees *and* 800 or more total jobs per square mile

Qualitative Criteria

Location: Top ten largest office parks, retail centers, and industrial parks (in terms of square footage and/or acres of developed land) as defined by the most current Birmingham Business Journal *Book of Lists* publication

Located along or at the intersection of major highway and/or freeway interchanges, and/or intersections of regionally significant thoroughfares

Stand Alone: Regional Centers of Government
Colleges and Universities
Regional Medical Centers
Regional Convention Centers
Regional Cultural and Recreational Centers
Major Intermodal Passenger Transportation Hubs
Special Generators i.e. Fred Shuttlesworth/Birmingham International Airport.

Development Expectations

The expectation for future development of the transportation system within Regional Activity Centers is that:

- The transportation system will support continued infill development, redevelopment of underutilized sites and intensification of land uses.
- Greater emphasis will be placed on providing transportation system infrastructure and services that support the mixing of uses within activity centers. This includes commercial and civic uses, as well as inclusion of moderate and, in some cases, high density housing
- More deliberate thought will be given to the development of multi-modal transportation system within employment centers, particularly those located in the suburbs, where industrial, warehouse and distribution facilities are concentrated together.
- Interconnecting activity center streets to promote public transportation, pedestrian and bicycle travel, as well as alternate access to the activity centers via the transportation networks of adjacent neighborhoods.

⁵ Dunphy, Robert T. Ibid.

Methodology

Based on the criteria provided above, Regional Activity Centers were identified using the following methodology:

1. 40 acre grid cells (¼ mile) were overlaid onto the two county metropolitan planning area and employment within the grid cells was totaled. Concentrations of employers with 1,000 or more total on-site employees were identified. Concentrations were defined as two (2) or more employers located within ¼ mile of each other. Additionally, areas having a concentration of 800 jobs/square mile were calculated using 2008 employment data obtained from the U.S. Bureau of the Census's "Local Employment Dynamics" online tool.

The employment concentrations were geo-located on a physical map using a Geographic Information System (GIS). Employment densities have also been shown using a graduated "thermal" scale.

2. Locations identified because of total employment and employment densities were overlaid with the top 10 largest office, the top 10 largest retail, and top 10 largest industrial developments. This determination of the size of these developments was taken directly from the most recent version of the Birmingham Business Journal's Book of Lists.
3. The information derived from the previous two steps was overlaid onto a geo-referenced point file of the facilities meeting the stand alone criteria for an activity center. The stand alone criterion is taken directly from Chapter 15 of the Transportation Planning Handbook.
4. All of the points derived from the steps identified above were overlaid onto parcels for both Jefferson and Shelby County. These points were rectified to the parcels using aerial photography. The combined boundaries of contiguous parcels mark the boundaries of the activity centers. In cases where the activity center stands alone, it is the activity center.
5. Locations were compared against the Regionally Significant Transportation Facilities Network.

Results

In most cases, the point data identified from steps 1 through 3 above were clustered in close proximity to one another. With the exception of a few centers that were either standalone centers such as industrial complexes, colleges, or regional centers of government, point data identified through the process above was grouped together within previously identified as activity centers. This grouping helped to confirm that the previously identified Regional Activity Centers were correct. The process also managed to reduce in size the previously identified activity centers, primarily because the quantitative criteria established defined thresholds.

Continuing Activities

- Refine activity center boundaries
- Provide guidance for definition of local activity centers
- Establish infrastructure investment goals and policies for activity centers

Regional Mobility Hubs

Anyone who has had to walk down a bleak and busy street to a wet and windy bus stop – with nowhere to find shelter or buy a paper or a cup of coffee – to wait anxiously, uncertain of when the next bus will arrive, while comfortable commuters whiz by in their cars knows what a mobility hub should be. “Mobility hubs” is hardly a household phrase. But the concept of central places that link different modes of transportation, as well as other things such as shopping, entertainment, recreation and family services – is fundamental to the Birmingham 2035 RTP.

Mobility hubs are about making it easier to move from one mode of transportation to another, anchoring seamless, convenient connections across the metropolitan planning area. They’re also about improving the relationship between transportation and land use. There’s no point building a mobility hub in the proverbial “middle of nowhere.” In order for them to work, mobility hubs need to be located close to many people, whether they are at work, at home, or at play. In other words, they need to be livable, attractive places.

Most people would agree that mobility hubs are a good idea. But where, how and what we build will take careful consideration. A Regional Mobility Hub is:

- A place of connectivity, where different modes of movement, from walking to high-capacity, high-speed public transit services, come together seamlessly
- A place where there is an intensive concentration of employment, living, shopping, and entertainment centered on public transportation
- A place that is easily accessible to pedestrians and cyclists
- A place where travelers are provided choices in how they move about the transportation planning area

Typically centered on a significant public transit investment such as rapid rail or bus transfer facilities, Regional Mobility Hubs attempt to match urban development patterns with multimodal transportation. The concept of the Mobility Hub is to equalize or give priority to non-single occupant vehicle (SOV) modes of travel such as public transit, cyclists, and pedestrians. Mobility Hubs are an attempt to address the negatives brought about by land development patterns that responds exclusively to a single travel mode, the automobile, whose supportive infrastructure (i.e. wide, high-speed arterial roadways, parking facilities, etc.), frustrates the movement and use of other transportation modes.

Regional Mobility Hubs elevate the importance of public transit, cycling, and pedestrian travel. This elevation of importance is critical to ensuring the development of an efficient, sustainable regional transportation system. In elevating the importance of these travel modes, particularly within Regional Mobility Hubs, the transportation planning area will be able to take advantage of potential environmental benefits. Public transit and non-motorized transportation facilities within the hubs help to reduce automobile travel, which impacts air quality. Equalizing and/or prioritizing cycling and pedestrian travel within Regional Mobility Hubs also helps in addressing community health issues by providing employees, residents, and visitors to the Regional Mobility Hubs the opportunity for walking and cycling. Finally, equalizing and/or prioritizing cycling and pedestrian travel is an economical solution for combating congestion and long-term sustainability issues brought about by sprawl land development conditions. Regional Mobility Hubs provide an economical way to invest/reinvest in places that take advantage of existing infrastructure and/or minimize the need to expand infrastructure.

Types of Mobility Hubs

Mobility Hubs can range in size and character. The concept includes different types of mobility hubs, such as urban centers, unique destinations, major gateways/intermodal stations, and higher-order transit stations.

Mobility Hub Typology	
Regional Mobility Hubs	Serving multiple communities, regional mobility hubs serve regional activity centers and have the potential for the highest levels of population and employment densities, and that generate the highest levels of travel demand to and from these centers. Potential transit travel modes include high-capacity public transportation services (rail and/or bus rapid transit), as well as express and local bus services. Regional hubs are defined based on their scale, character, transit service availability and type, and function.
Community Mobility Hubs	Community scale mobility hubs serve major regional destinations and/or functionally important gateways that have inter-regional connections such as airports, emerging activity centers, universities and colleges, major parks and stadiums, and regional shopping centers.
Neighborhood Mobility Hubs	All stations located on a high-capacity transit line, primarily providing access to both high-capacity and local transit services for nearby residents in lower-density, single-use areas which were not included in previous definitions.

Characteristics

Mobility hubs have gained greater prominence in transportation planning over the past few years with the understanding that matching urban development patterns and multi-modal transportation, while giving priority to local transit, pedestrians and cyclists, is critical to ensuring efficient, sustainable regional transportation patterns. Around the world, mobility hubs are an accepted, well-established concept where land use, transportation and human interaction come together. This is important as an aspiration of the Birmingham metropolitan area's leadership is for the region to achieve world class status.

The Regional Transit Improvement Strategy produced in 2004 by the Birmingham Metropolitan Planning Organization as a summary of the Birmingham Regional Alternatives Analysis project articulated the concept for mobility hubs in its discussion of transit centers within the larger conversation about transit supportive infrastructure. The Birmingham Jefferson County Transit Authority furthered the concept in proposing the development of seven (7) strategically located Super Stops. The mobility hub concept, however, goes beyond conventional transportation infrastructure to incorporate a broader objective of creating and/or supporting activity centers that provides both seamless connections between multiple types of transportation modes and a sense of place for the user.

There are six (6) key components of a successful mobility hub. They include:

1. Multimodal Transportation Facilities and Services
2. Economic Activity
3. Intensified/Concentrated Land Uses and Urban Densities
4. Pedestrian Facilities and Accommodations
5. Embedded Technology, and;
6. A Strong Sense of Place.

Figure 5A -1 illustrates these components more clearly.

Not all hubs are alike in scale and function or will contain each of these ingredients to the same degree, but all will have some elements.

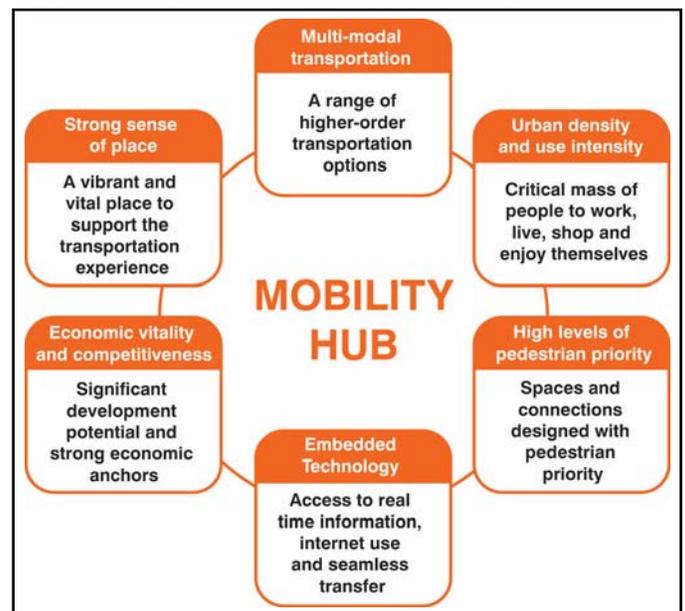


Figure 5A-1 Components of a Successful Mobility Hub

In addition to the six components identified above, mobility hubs are readily distinguishable by three components. They are:

1. **Transit Station** - A transit station at the core served by at least one higher-capacity transit line.
2. **Mobility Hub** - The immediate area around the station is surrounded by buildings, public spaces and streets which together with the station comprise the mobility hub. From here people can easily access a range of activities, services and amenities.
3. **Catchment Area** - Finally there is a broader area of influence outside of the hub, the catchment area, which also supports and benefits from the hub and connects it with the conventional street system. The catchment area is the area in which most users of the mobility hub live or work.

Other Considerations

If the transit system provides the connectivity between mobility hubs, it is the mix and intensity of land uses in the hub itself that establishes the destination and the environment conducive to transit choice. A transformational shift in thinking is required to strengthen this critical relationship between land use and mobility. A regional land use pattern designed primarily for cars creates barriers to developing efficient high-capacity transit. A dispersed, separated, single-use, low density urban structure cannot provide the concentration, connectivity and encouragement of demand that will offer the convenience, service levels and ridership to present compelling alternatives to the use of the car for those who have a choice.

In remaking the transportation system, existing areas and those with the potential to be transformed into urban centers present the best opportunity for the placement of mobility hubs. Mobility hubs are the places that a regional public transportation system will connect. These places are very different from the typical car-centered cities that are present today in the Birmingham metropolitan transportation planning area. The comparative attributes of such 'old' and 'new' mobility, illustrating the scale of transformation necessary, are listed in Figure 5A-2

Figure 5A-2 Necessary Transformations to Achieve Mobility Hubs

Old	New
Low-intensity development	Medium and high-intensity development
Single land uses	Mixed land uses
Separated land uses	Integrated land uses
Low population density	High population density
Low employment numbers/density	High employment numbers/density
Wide arterial roads	Connected street network
Large, surface parking lots	Strategically placed structured parking
Little protection from weather	Protection from weather
Mall-oriented retail	Street-oriented retail
Limited accessibility for disabled	Accessible
Discourages walking	Pedestrian friendly
Discourages cycling	Bike friendly
No adjacent services/institutions	Adjacent shops and services
No information	Real-time information
Single mode	Multimodal

In addition to the high-capacity transit services that are necessary for the creation of mobility hubs, the RTP must consider the critical infrastructure needs of the overall public transportation systems. This includes the availability of existing transit services, as well as the traveler's ease and convenience in making transit trips to and from home, the office, school or other destinations. In this regard, automobiles have an advantage; they offer freedom of movement that is versatile, adaptable and comfortable. The car allows ease of movement, not only between two points -- an origin and destination -- but also among any

number of places. All of this is able to be accomplished within the convenience of a single mode. While cost and journey time considerations will increasingly act to reduce the relative advantages of the automobile, a competitive public transportation system must find a way to offer attractive, comparable or superior levels of service and convenience, focused on increased choice of modes at mobility hubs, and the network that connects them..

Mobility Hub Placement Criteria

The RTP recognizes that development, employment, and lifestyle location decisions cannot be forced. However, the RTP also recognizes that the future success of the transportation system is reliant on the ability to shift trips to non-SOV travel modes and change travel behavior as opposed to adding significant amounts of new roadway capacity. The success of the Regional Mobility Hubs in attracting concentrations of jobs, housing, cultural and civic activities, retail, and service opportunities is largely dependent upon the ability to provide a compelling mobility package. The provision of an effective mobility package will require a major change in how transportation is viewed within the Birmingham metropolitan transportation planning area, in how transportation facilities and services are provided, and how both ALDOT and the Birmingham MPO conduct business. Long-term objectives for the development of mobility hubs should meet all or most of the following criteria:

- The Hub is an inter-regional destination or draw
- The Hub is a unique visitation or tourism destination
- The Hub has market demand to attract levels of development (mixed-use, employment, residential) capable of supporting regional transit services
- The Hub has the potential for place-making, either through available land or retrofit
- The Hub is strategically located within the Birmingham metropolitan transportation planning area

The 2035 Birmingham RTP takes the first steps to encourage the development of Regional Mobility Hubs by recognizing the existence of Regional Activity Centers and establishing policies to prioritize regional resources to these locations ahead of locations in non-activity center locations. From those Regional Activity Centers, the RTP has identified four (4) distinctive areas within which to encourage Mobility Hubs, encouraging the development of a regional transit system that will link these areas together, and concentrating resources to develop the necessary non-motorized travel networks that are needed to provide support.

Mobility Hub Development Challenges

There are many opportunities to influence the planning and design of potential mobility hubs, particularly those that are proposed to be located in existing regional activity centers. The greatest challenges are in suburban areas, where many potential mobility hubs are proposed to be located in areas that are underdeveloped, or seemingly stalled in their ability to achieve the desired development mix and intensity. As well, the associated modal splits and several important destinations lack higher-order transit service. Even with the high levels of population and employment growth projected, not all developing centers or higher-order transit stations can readily become fully contributing mobility hubs. It is important to understand what the primary impediments are to their successful development. Figure 5A-3 presents a brief summary of some of these challenges.

It is not an exaggeration to state that for most of the Birmingham metropolitan transportation planning area, current transit provision does not have a significant bearing on investor decisions and land use patterns. Even public agencies have too frequently located major institutions, such as health centers and courthouses, in relation to old rather than new mobility. Development, employment, and lifestyle location decisions cannot be forced; they must be attracted by a compelling mobility package. The real test of transit is the ability to compete with the car. The most successful mobility hubs will be those served by all-day, higher-capacity transit of sufficient service quality to influence individual and corporate location decisions. Overall, a step change in the frequency, reliability, speed, convenience and comfort of public transportation services will be necessary to change travel behavior to the extent that it influences changes in land use decisions.

Figure 5A-3 Mobility Hub Development Challenges

Transit Service Levels	Infrequent, unreliable service
Parking	Extensive, free or very inexpensive, single-use market-essential for development
Awkward land use patterns	Small, separated sites; industrial land use patterns; highway oriented land retail development.
Lack of market	Demands for low-density, office park styled development; focus on residential development.
Difficulty of development	Fractured land ownership; conflicts with large land owner future development plans; low demand for public transportation services; non-proven market.

Getting Started

In their current state, some potential mobility hubs consist of little more than vast parking areas, single-use low-density buildings and empty lots. Creating a vision of their future that can convince the skeptical investor is important. Just as important is knowing where to start. If the market's recognition of the area is undeveloped, it may be necessary for the public sector to initiate development by locating a major public building or facility as a catalyst for private development. The Transit District Plan developed for the In-town Transit Partnership sets a good precedent for leading the creation of a substantial mobility hub, having advanced civic, cultural and public space development. Conversations with private investment interests about what they would be willing to lend their support to resulted in the development of a comprehensive vision for a central city focused mobility hub.

A set of tools can be developed to guide the development of mobility hubs. This should include setting zoning regulations, a comprehensive parking strategy, identifying potential development for the catchment area, and developing a station area master plan to ensure that new transportation facilities are adequate to serve multiple travel modes, both encourage and support changes to modal splits, and encourage live/work opportunities.

The impediments to the creation of effective mobility hubs outlined previously must be taken seriously if successful hubs are to be developed as key elements of the overall transportation system. Dramatic improvement in the existing transit services as well as successful implementation and operation of proposed transit services will increase modal splits and moderate the negative implications of parking requirements. A comprehensive attitude towards the design of transportation facilities can correct past shortcomings and ensure new investment is conducive to transit-oriented development. Overall, the political will, planning framework and targeted capital investment necessary to overcome the impediments of the past have to be focused on creating a new way of pursuing land development opportunities. Using transportation investments to influence this can be a very effective tool that pays off in the end.