

Community Capture Methodology

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The Florida Department of Transportation (FDOT), in partnership with the Florida Department of Community Affairs (DCA), Regional Planning Councils (RPCs), local governments, transportation and land use professionals, and representatives of the development community, has initiated the process of identifying unique trip making characteristics of large, self-standing development with a balanced mix of uses, such as a new community or town. . These communities will be subject to regulation under F.S. 380.06 – Developments of Regional Impact (DRI). Most DRIs will not need to utilize the Community Capture methods because they will not meet the identified community criteria. To recognize the unique characteristics of the developments meeting this type of scenario, we have introduced the term “Community Capture”.

Recommendations for Estimating Community Capture

A Definition of Community Capture

Community Capture is the reduction in the number of external vehicle trips generated by a large, mixed-use development reducing the overall impact of the proposed community on the transportation system outside of the development. Community Capture occurs due to the combined land-use, location, design, and multimodal characteristics of the development. Internal Capture, as accepted by the professional transportation community, recognizes that a portion of the total trips for a multi-use development may be satisfied within the development. The concept of Community Capture extends the application of internal capture to include potential trip interactions and reductions within the boundaries of large scale, multi-use developments. In these large-scale cases, internal capture trips would be a wholly contained subset of community capture trips. While “Community Capture” and “Internal Capture” are somewhat different, some of the research and applications associated with Internal Capture can apply to Community Capture.

Where May Community Capture be Applied?

Community Capture can be applied to a large, self-standing development, such as a new community or town, with a balanced mix of uses that may fulfill a significant portion of the community’s needs within the development. These communities may be separated by travel-time, design, or distance from other major land use concentrations. They provide a wide range of internal services, which may satisfy a significant portion of their needs within the community.

The community would make many off-site trips unnecessary by being of sufficient size to provide a balance of land uses, including a range of housing types and values, neighborhood and community retail centers, entertainment facilities, offices, and employment. The community would also provide a range of support services such as schools, civic institutions, houses of worship, public parks, and government facilities. Larger communities may have several town centers or villages, which embrace connectivity

within, and between, each center and village with a transportation system of all modes, including pedestrian paths, bicycle facilities, and shuttles.

Numerical Factors for Community Capture

Because each site will have unique characteristics, no minimum or maximum values for Community Capture will be recommended by FDOT. Reasonable analysis of proposed developments will be used and will be verified by substantial and ongoing monitoring programs. Ideally, over time, agreement may occur on some ranges and measurement criteria. However, because this is an emerging topic, many of the early estimates will be negotiated, based on best professional judgment and verified with monitoring agreements.

Justification of Community Capture Values

The justification will need to include summaries showing the numbers and percentages of trips served within the proposed development. For example, depending on the development, it might look like this,

“X % of the entering shopping trips expected in the PM peak hour makes up Y% of the total exiting shopping trips from homes within the community”.

As a Development of Regional Impact (DRI), the proposed community will include the standard “Map H”, development program summary, and build-out schedule. Additionally, there must be information provided in sufficient detail to clearly support and explain the process used to determine a proposed Community Capture value.

This analysis should be done for each phase, with an agreed upon monitoring program.

Using the Right Tools for Determining Community Capture

No single tool for determining Community Capture currently exists. While refinements to existing tools, such as the modeling methodology described below, are currently under development, no one procedure has been demonstrated to provide a final Community Capture value. Until there is more experience and knowledge regarding Community Capture, reasonable analysis and negotiations, supported by substantial and detailed monitoring requirements will be used.

Commitment to Traffic Monitoring

Expanded traffic monitoring beyond the current basic requirements of the DRI annual/biennial report will be a required provision in accepting Community Capture rates. While the detailed needs of the traffic monitoring program will be determined through the traffic study process, elements such as origin and destination studies, trip generation studies, and an evaluation of land use mixes in the community and surrounding the community will usually be included in the monitoring program. At a minimum, monitoring will be necessary before the development enters a new phase. If appropriate, trip characteristic assumptions and impact mitigation requirements will be revised, based on the monitoring.

Traffic monitoring at a frequency greater than by phase may be required for more aggressive development programs or if significant changes are made to the planned development program.

The Role of Pre-Application and Methodology Meetings

During the pre-application and transportation methodology meetings it will be important to have discussions among the experts in development and transportation (DCA, FDOT, RPCs, local governments, transportation professionals and representatives of the development community), to agree on factors needed to determine Community Capture and external impacts. All requests for utilizing Community Capture rates require more detailed information and specific commitments for justification. If sufficient information is not available at the time of the methodology meeting to make the commitments necessary to justify a Community Capture rate, final agreements on a rate will not be made until such information is available.

The Factors Impacting Community Capture

Community Capture will go beyond Internal Capture, accounting for the unique trip making aspects of a large, self-standing development with a balanced mix of uses such as a new community or town. The Community Capture concept focuses on:

Land Use Characteristics: A balance of land uses where form and function result in trips being satisfied within the development must exist for significant Community Capture to occur. Some of these factors are:

- **“Income Compatible” Uses:** Residence and employment centers should be “income compatible” so residents have ample employment opportunities in the community. Employment centers should attract a reasonable amount of the workforce from within the community.
- **Type of Community:** Is this a community planned for all age groups with job opportunities, or is it a retirement community? Is the new community primarily recreational? These issues can have an important impact on Community Capture.
- **Community Design:** The design features of the community can affect both the number of external vehicle trips, as well as the internal trips using major roadways. For example, a well-designed development with good internal connectivity will make it more convenient for trips to stay on site. By providing alternative connections internal to the site, the number of vehicle trips needing to use a major roadway to traverse the site can be reduced. Internal capture is facilitated by a high level of connectivity and short travel distances between complimentary land uses.
- **Development Maturity:** The project’s fullest Community Capture may not occur until the complementary land uses mature. This may occur late in the development program. This will depend on the quantity and balance between complementary land uses. However, each phase or

increment must mitigate the cumulative impacts to the regional network resulting from the current phase or increment and previously approved phases or increments.

Location Context: The location context of large, mixed-use developments may impact Community Capture in the following ways:

- **Remote Locations:** For a remote location with a balance of complementary land uses, high trip capture may occur. For the trips not captured on site, longer external trip lengths will result because there would be few opportunities for trips to end near the site.
- **Competing External Opportunities:** If there were ample nearby destinations (shopping, jobs, or entertainment) outside of the community, the Community Capture rate would likely be lower. For example, if a mixed-use development is located near other large developments, the Community Capture rate may be reduced.
- **Trip Generation of Isolated Communities:** Discussion is ongoing regarding the trip generation characteristics of isolated communities. One assumption proposed is if a community is isolated, and a trip cannot be satisfied on site, some discretionary trips are less likely to occur. While not making a trip can be an option for some trips, such as shopping, it is not an option for work-based trips, which have the highest impact during the peak hours.
- **Multimodal Elements** (Encouragement of transit, walking and cycling): The provisions of on-site transit circulators and integrated systems of bicycle, golf cart, and pedestrian paths may have an impact on vehicle trip generation and vehicle trip capture. Such amenities make it easier for trips to remain on site and may reduce the need for vehicle trips to occur.

Some Guidance on Analysis Tools

Travel Demand Models

Currently, large-scale transportation models, such as FSUTMS, which are not specifically modified for Community Capture purposes, may be insensitive to some of the factors expected to affect Community Capture. To address some of the limitations associated with using travel demand models to estimate capture, a methodology is proposed based on the following modifications:

- Consider land use categories in place of or in addition to traditional trip purposes. Within the model, use an increased selection of housing types (single-family, multifamily, rental apartments) and categories (high cost employed, retired, seasonal, medium cost employed, and low cost employed) and a trip purpose table for the expanded housing categories which can be used to create a residential trip generation and trip purpose profile to better match the development plan;

- Consider land use categories at trip attraction ends, such as retail/restaurant price levels to better match with residential income/price category. Also, consider for income/price category. Summarize the potential attractions within the community, based on the marketing plan, to better account for income differences;
- Create transportation analysis zones (TAZs) for each land use along with more detailed coded networks; and
- Carefully use K-factors (travel-time friction factors) within the model to make reasonable adjustments to the trip distribution patterns within the community and to the trip lengths external to the community.

While this methodology appears to be a positive step in addressing some of the traditional limitations of travel demand models in determining capture rates, the methodology needs to be tested to gain a better understanding of the sensitivity of the model to the proposed variables. The use of additional or modified variables must be documented and discussed with reviewing agencies early in the methodology development phase.

Currently, most standard large-scale travel demand models are not sufficiently detailed to predict internal capture. Unmodified models and their “raw” output are not appropriate tools to be used alone to justify Community Capture values. When the model is part of the justification for Community Capture values, clear documentation of the model process, including the submittal of all model files, must be provided, so a professional reviewer with reasonable competence in travel demand models can replicate the analysis and conclusions.

Institute of Transportation Engineers (ITE) Multi-Use Development Methodology

The ITE multi-use development methodology has been the primary tool used to estimate internal capture since 2000. While the ITE multi-use development methodology does not account for variables such as proximity of on-site land uses and location context, the methodology does provide an organized and professionally accepted manner to evaluate internal capture. If the data needed to support a Community Capture assessment is not available, an internal capture value determined using the ITE methodology could be used. A new National Project to update the ITE method is expected to be complete in 2009. This project is expanding the database and refining the method employed in the ITE methodology.