

## Advanced Transit Oriented Developments (ATODs) - Defined

Work previously undertaken at Florida International University (FIU) in the Lehman Center for Transportation Research (LCTR), the School of Architecture (SoA), and National Science Foundation's Industry-University Cooperative Research Center for Advanced Knowledge Enablement (I/UCRC-CAKE) can be used to examine how to develop a safe urban environment centered around mass transit facilities such that **a very specific pedestrian-oriented transit access functionality is achieved: larger numbers of people, walking longer than typical distances, congregate in public spaces for longer periods of time immediately proximate to transit stations to facilitate improved transit access and use.**

While transit oriented developments (TODs) have been discussed in national and international literature as a means to increase transit ridership, FIU and related personnel have been examining Advanced Transit Oriented Developments (ATODs) that, with specifically designed and arranged pedestrian-oriented urban centers, can:

- expand transportation choices;
- increase community, metropolitan area, and regional mobility;
- lower costs to access to all community destinations (including affordable housing);
- improve pedestrian, bicycle and transit accessibility to all essential destinations;
- provide several strategies to respond to climate change impacts; and,
- enhance all community conditions (i.e., sustainable and improving economic prosperity, health, educational opportunities, affordable housing, environmental preservation, equitable development, and resiliency to climate change impacts; reduced congestion, crime, slum, and blight; and, increased productivity, jobs, and real estate values).

See Growing the New American Economy at <http://cake.fiu.edu/TI/drop/GTNAE.Complete.pdf>.

It is assumed that ATOD components will be sized and arranged so that they collectively convert most if not all private passenger car movements into pedestrian movements and direct all pedestrian movements towards a transit station within an ATOD urban center. The transit station, by providing a safe convenient, comfortable, interesting, and fun environment, will encourage pedestrians to hold in place until transit modes serving regional and metropolitan area and operating at higher speeds and frequency than traditional bus transit arrive and disperse those pedestrians that choose transit for their next trip segment to other high value destinations and national and international transportation access points. More numerous pedestrians arriving at the transit station within the ATOD urban center will use such transit more frequently especially when traveling between other such specially designed and arranged pedestrian-oriented urban centers and transit stations built accomplish the very specific pedestrian-oriented transit access functionality as referenced above in bold print.

In concept, such ATODs have the following components:

1. One or more carfree urban centers that consist of plazas, public squares, courtyards, and the adjoining mixed-use and destination buildings that house significant community uses of the urban built environment.
2. Public spaces, especially at the carfree urban center, that from a pedestrian point of view are: i) protected from adverse weather conditions (to minimize pedestrian discomfort that comes from the wind, rain, sun, heat and cold); ii) safe, comfortable, interesting, useful and fun; and, iii) consistently more attractive to the five senses (what

*you see, hear, smell, taste and feel) at the urban center plazas and public spaces than at the perimeter of the urban center built environment or beyond.*

3. *Mixed-mode streets, pedestrian corridors and mid-block arcades within the built environment of the urban center that surround plazas providing an array of pedestrian, bicycle and tram options in all the right directions and shortcuts to multiple destinations.*
4. *Parking structures that: i) provide an abundance of parking spaces (including those dedicated to transit customers that use cars for the first segment of their multimodal trips); ii) are linked above or below grade as between two or more parking structures; iii) are located within the urban built environment surrounding the carfree urban centers; and, iv) are positioned such that each parking structure is surrounded by mixed-use and significant destination buildings that touch from one building to the next and provide for high-quality walking environments and mixed-mode corridors.*
5. *Safe, traffic-calmed and complete streets where pedestrians and bicycles are accommodated as well as slow moving cars, smaller trucks, trams, and community transit vehicles via well- conceived landscaped/hardscaped sidewalks (that tend to be wider than the roadway), narrowed traffic lanes, traffic intersections, mid-block crossings and street parking.*
6. *Transit greenway corridors arrayed outwardly from the urban center built environment to destinations located within an approximately one mile radius or less from the urban center that function as linear parks and are designed for pedestrians and bicyclists as well as small slow moving pedestrian-oriented fixed-guideway narrow gauge rail trams.*
7. *Community transit operations that better link the general population and transportation-disadvantaged populations to destinations within the urban center and within an approximately two mile radius thereof using community-based, short-distance, on-demand and/or frequent route, rubber-tired community transit and Paratransit vehicles.*
8. *One or more Advanced Transit and Multimodal Stations (ATMS) adjacent, but functionally separated from, the urban center that provides for quick and efficient access for advanced bus services arriving from major highways and large-scale, pedestrian-oriented, and safe access from high quality public spaces.*
9. *Limited access highway intersections and ramps linked with traffic-calmed streets and parking structures around the urban center to provide private passenger car, delivery truck, freight and transit access to the urban center from more distant destinations.*



Figure 1: Pedestrian plaza and high quality public space





Figure 2: Mixed-mode Street



Figure 3: Pedestrian corridor





Figure 4: Electric Small Rubber Tire Trolley and Narrow Gauge Rail Tram as some of the Community Transit options





Figure 5 Very inexpensive narrow gauge rail track installation



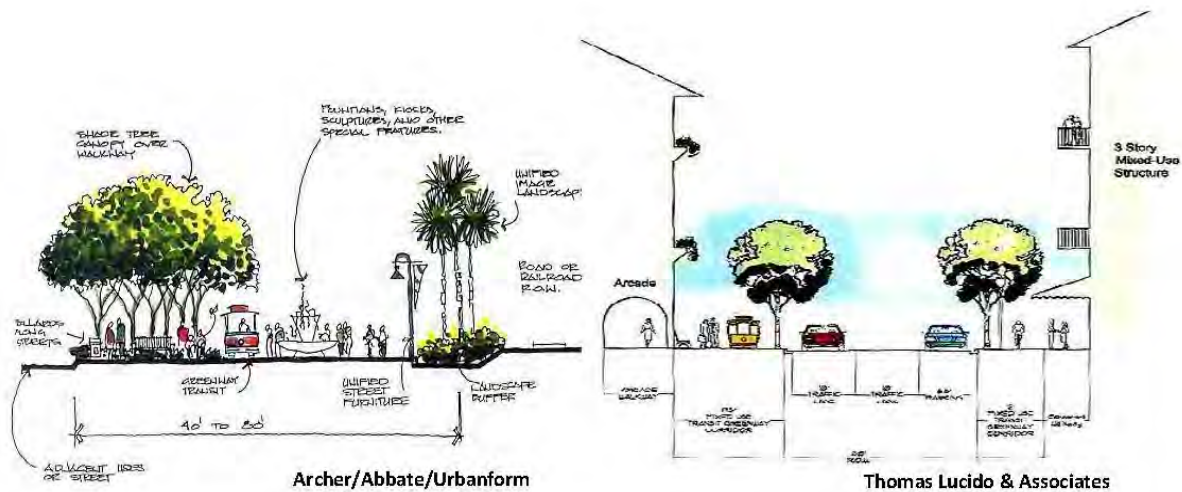


Figure 6: Transit Greenway and traffic calmed street

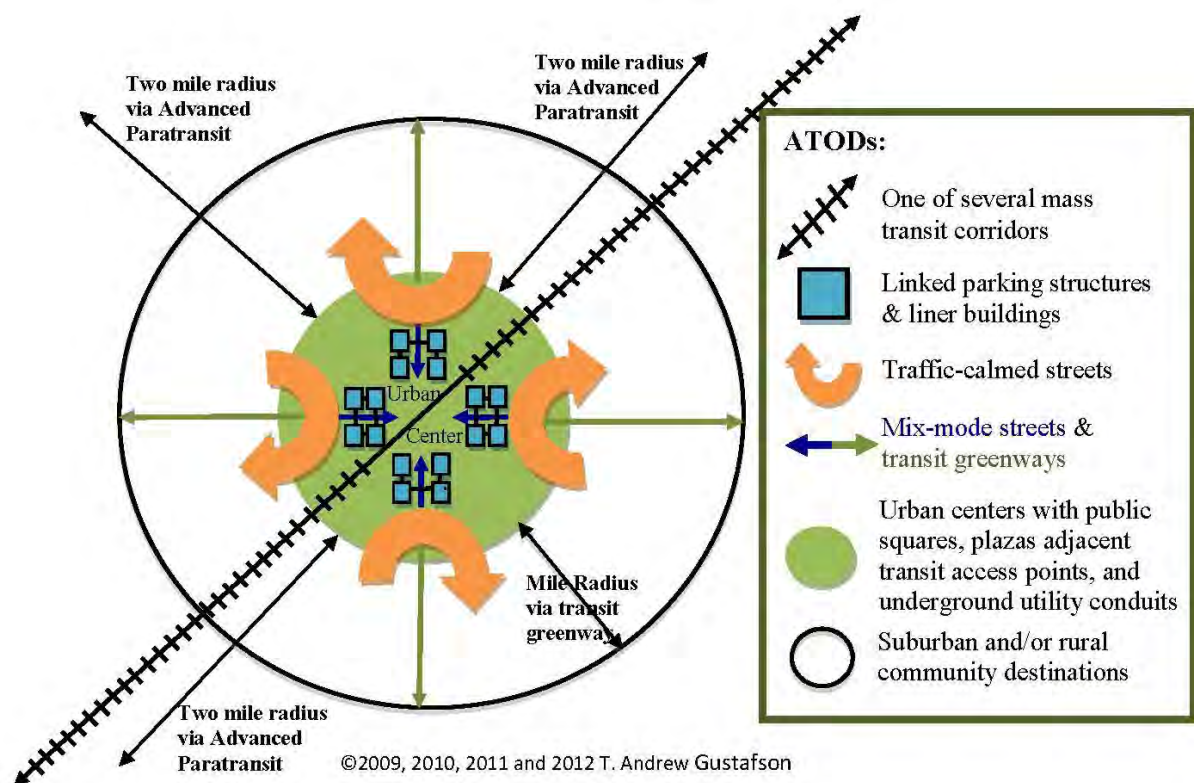


Figure 7: Conceptualized Advanced Transit Oriented Development

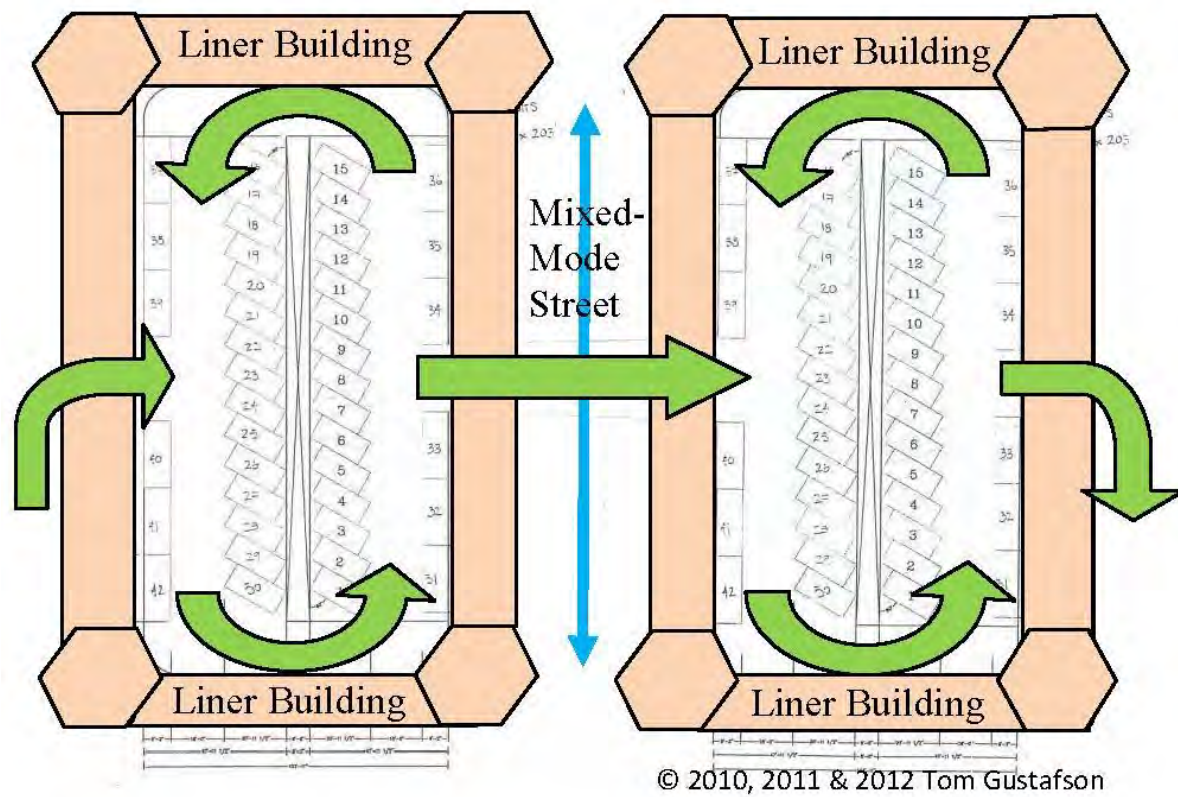
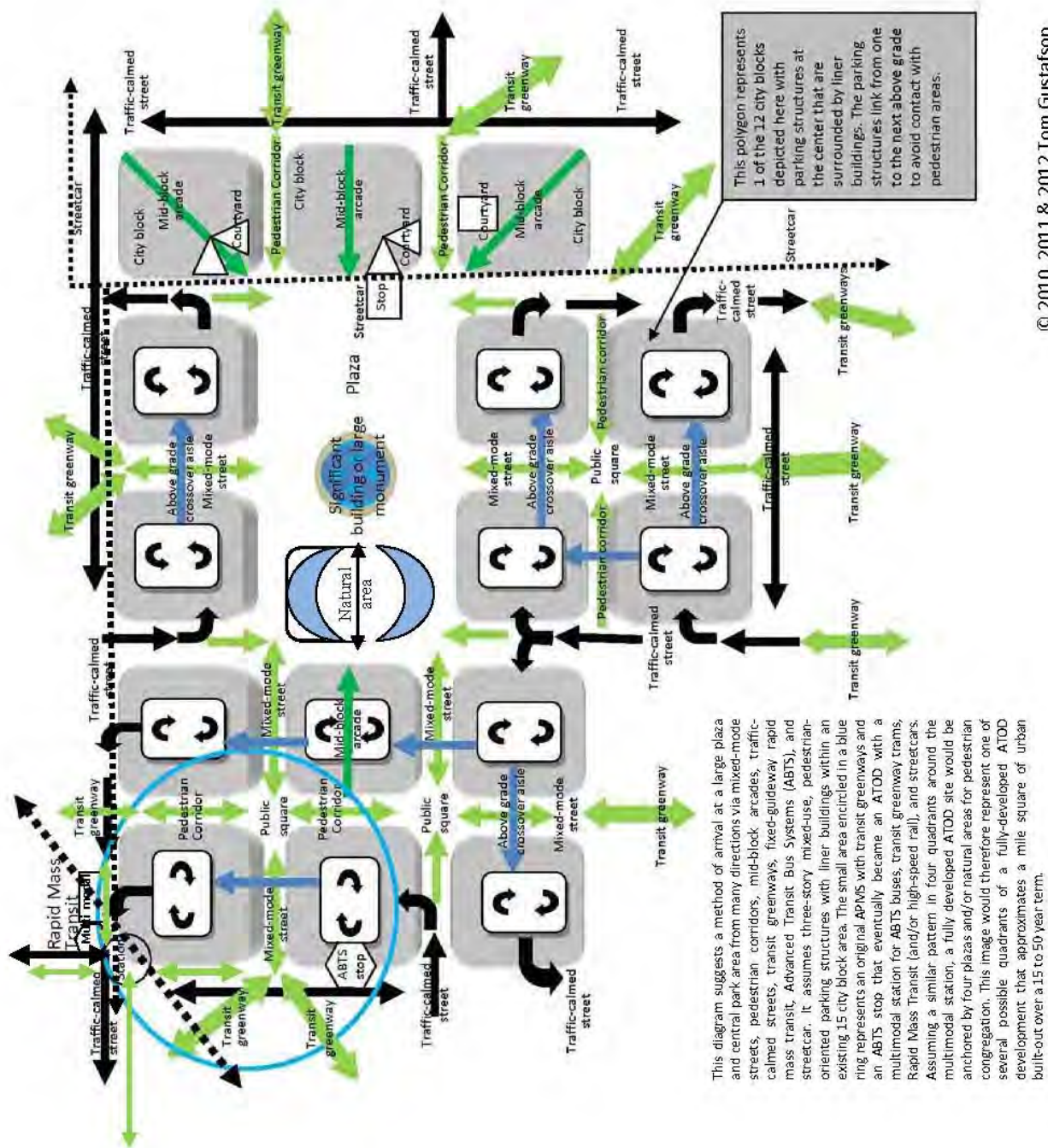


Figure 8: Pedestrian-oriented parking structure with mixed-use liner building



Figure 9: High quality pedestrian-public space with bus rapid transit





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Figure 10: ATOD configured within the existing city blocks of a typical American community