

ALTERNATIVE TRANSIT SYSTEMS IN THORNTON, COLORADO



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INTRODUCTION

Thornton, Colorado has a need to provide increased public transportation options to accommodate its rapid growth. The city is seeking to move away from its automobile-dependent history and create a safe, sustainable, and equitable multi-modal transportation network.



(Van Denburg, 2020)

CASE STUDIES

Complete Networks



(Getty, 2019)

Canadian cities have similar density and form to American cities but higher transit use.

Toronto and Ottawa have achieved complete transit networks through decades of planning efforts.

Toronto has a transit mode-share of 11% in the suburbs, with similar density to American suburbs.

Flexible Transit



(Move Nom, 2019)

In Lake Nona, Florida, a developer funded an AV shuttle with a one mile route.

The program received a \$20 million BUILD grant to increase routes across the community.

The Lone Tree (CO) Link is sponsored by corporate partners and provides on-demand shuttle service.

Transit-Oriented Development



(SounderPrace, 2019)

Seattle requires large employers to implement plans to reduce the vehicle miles traveled of their employees.

The city has also implemented congestion pricing, parking - management, and transit-oriented development.

Arlington, VA used TOD strategies to achieve a 40% transit mode-share in a suburban community.

Successful transit projects typically secure funding from multiple sources. It is crucial for projects to attract both private investment and public support.

These charts analyze the best funding strategies to meet Thornton's needs.

Source	Description	Benefits	Drawbacks	Politics
RAISE Grant	Transportation grants awarded by USDOT	\$1 billion available in grants for FY 2021	Very competitive with nationwide applicants	Prioritizes sustainability and equity
Pilot Program for Transit Oriented Development	FTA grant for transit capital investments	\$130 million awarded in FY 2020	Competitive application process with nationwide applicants	Aids local communities to integrate land use and transportation
Community Development Block Grant	Distributed by HUD for housing and infrastructure projects	\$3.34 billion available. Funds awarded on a formula basis	Must show transportation relationship to community development	Prioritizes projects that benefit low to moderate income residents
Transportation Alternative Program	Awarded by CDOT for non-driving projects	\$17 million available regionally in FY 2021	Competitive application process	Local governments, regional organizations, and transit agencies can apply
Multi-Modal Options Fund	Administered by CDOT for multi-modal projects	\$45 million available in Denver area	Requires a 50% local funding match	Funds can be combined with TAP funds

FUNDING STRATEGIES

Source	Description	Benefits	Drawbacks	Political Factors
Special Assessment Districts	Special tax or fee applied within a bounded district	Reinvests increased value in local improvements	Works best in major commercial areas	Works best when district members see direct benefits of funds
Tax Increment Financing	Collects revenue over time from rising property values	Does not involve a tax increase	In CO, can be used by URAs and downtown districts	Can be more popular since they do not involve a tax increase
Congestion Mitigation and Air Quality Improvement	Distributes funds to reduce greenhouse gases and traffic congestion	Funds can be used for transit services	Competitive application process	Application based on projected emission reductions
Parking Sources	<ul style="list-style-type: none"> Sales tax or property tax on parking Increased fees for SOV and street parking 	Significant revenue potential	Higher parking rates can face public and business opposition	Works best as part of a comprehensive strategy with community outreach
Impact Fees	Fees on new development to cover the cost of new infrastructure	Mitigates the costs of new infrastructure	High fees can discourage developers	Typically enjoy public support and private opposition
Developer Contributions	Private funds provided for micro-mobility services within developments	Positive publicity and attractive to residents	Possible equity concerns due to unequal services	No significant issues
Employer Based Programs	Privately funded programs like transit passes or corporate shuttles	Provides funds for projects city cannot afford on its own	Typically limited to employment centers and its workers	Depends on state legislation, seen as a burden by some

RESEARCH FINDINGS



(RTD, 2020)

EXISTING CONDITIONS

The series of maps in this report address population and housing densities, commuting patterns, transit services, and access and equity issues.

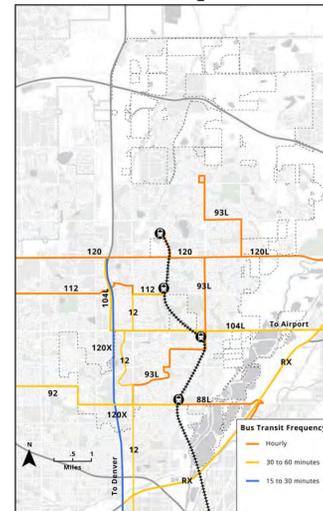
Regional Commuting Patterns



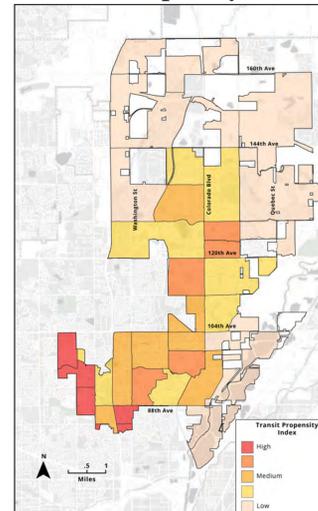
FINAL RECOMMENDATIONS

The aim of these recommendations is to provide Thornton with a range of flexible solutions, which can be used as a resource to inform future transportation planning. These final recommendations have been curated for Thornton's context, and highlight implementation locations and challenges. The recommendations are organized on an implementation scale from short-term to long-term solutions. This section recognizes that there is no silver bullet to realizing Thornton's transit goals. Rather what is required is a flexible menu of comprehensive strategies which complement each other on multiple fronts.

Rtd Bus Frequencies



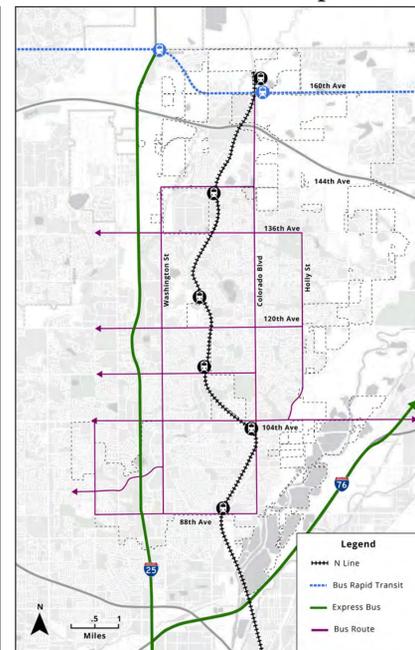
Transit Propensity Index



Summary of Recommendations

Strategy	Actions	Timeframe	Location	Challenges
Carpooling	<ul style="list-style-type: none"> Promote carpooling incentives Offer preferred parking Carpooling app partnerships 	Short-term	Southwest Thornton (S of 120th Ave)	Comfort and technology barriers
Equity Planning	<ul style="list-style-type: none"> Provide smartphone and credit card alternatives Promote accessible vehicles Grassroots local solutions 	Short-term	SW Thornton, 88th Ave Station, Thornton Crossroads	Requires an equity lens for all planning decisions
Tactical Urbanism	<ul style="list-style-type: none"> Temporary street closures Bus bulbouts, lane conversions Crowdsourcing innovation 	Short-term	Responsive to local community needs	Requires community buy-in
Shuttle Services	<ul style="list-style-type: none"> RTD autonomous shuttles Developer funded circulators Corporate shuttles 	Medium-term	North of 124th Ave, E-470, Employment centers	Securing funding (see finance)
Rideshare Programs	<ul style="list-style-type: none"> Partnerships for transit dependent Serve transit deserts and provide supplemental hours 	Medium-term	First & last mile connections	Doesn't always remove cars from road
Parking Strategies	<ul style="list-style-type: none"> Shared parking, multiple uses Short-term visitor street parking Efficient regulation enforcement 	Medium-term	Current and future N Line stations	Can be a polarizing political issue
Employer Programs	<ul style="list-style-type: none"> Facilitate Employee Traffic Reduction Programs Discounted transit fares 	Medium-term	TOD areas and large employer concentrations	Perceived as a burden by some businesses
Senior Strategies	<ul style="list-style-type: none"> Connect population with activity clusters Improved pedestrian infrastructure near senior concentrations 	Medium-term	TOD areas, community and recreation areas	Transit use is low among seniors
Multi-destination System	<ul style="list-style-type: none"> Rail, express buses, and BRT provide access to the north metro area 	Long-term	Connects Thornton with regional destinations	Requires years long coordination between regional organizations
Network Effect	<ul style="list-style-type: none"> Bus network provides frequent service on arterial corridors Seamless transfers between bus and rail allow access to whole city 	Long-term	Provides internal transit access throughout Thornton	Requires complete transit coverage and high service frequency

Future Network Map



Suburban Transit

A lack of density is viewed as the traditional barrier to successful transit systems in the suburbs.

Traditional radial transit systems that serve the CBD have failed to account for growing suburban residential and employment destinations.

Transit investment did not keep pace with suburban growth and the car became more convenient in these areas.

Residents who Do Not Drive

Poverty is increasing most quickly in the suburbs but transit investment prioritizes urban areas.

Transit-oriented development can lead to gentrification and displacement in surrounding areas.

Suburban low-income and senior populations have low transit use and require targeted solutions.

System Solutions

Researchers have started to challenge the idea that density is determinative for transit.

Multi-destination transit systems perform better than the older radial systems.

The Network Effect concept emphasizes mode transfers and large coverage rather than service improvements on isolated routes.