RETHINKING A REGIONAL Understanding Systems - SFI 6011 A connectivity barrier is a limiting Reducing existing barriers in the GTHA public transit system will Alexandra Jaworiwsky create additional incentives to increase ridership over private situation that reduces or prevents easy Cris Paano MODEL FOR TRANSIT IN flow between transit systems in the ownership of vehicles. Less cars and more riders will mean many Javier Machado Kassie Miedema Greater Toronto-Hamilton Area and benefits in our society that will range from sustainability, economic SOUTH WESTERN ONTARIO Pedro Suing surrounding region. growth, less congested cities, and less stress in daily life of Ontarians. Rhea Nambiar **ACTORS & STAKEHOLDERS** THE FIRST & LAST MILE Represents the distance and time it Fransportation across GTHA is proto public transit from a rider's point of origin.¹ This point of origin can be home, work, school, or a place of ent municipalities. Each one of these smaller cities has different transportation conditions and needs. The challenge: To provide a mode For instance, across GTHA some smaller cities are directly intercon provincial agencies, that connects nected with each other, and some people from their origin point to the transit hub or their final destination here are very few ways eco-friendly without using a private vehicle. to access public transit in regional the city of Toronto, and some do n area i.e., walking or biking. The effort YORK REGION TRANSIT some use an integrated payment Current Options: it takes often makes people lazy to Personal vehicle or car service, bik-Consequently, ridership can be ing, "rolling," or walking. hugely different depending on the user's specific route. What a rider will choose depends on the nature of their trip as well as on Waiting time for the bus or train Although riding public transit is time, convenience, and money. cheaper than owning a car, it takes and connectivity are frustrating doouble fares to change the transit painpoints. As the transit branches from region to Toronto City or even to regional areas, the frequency of o going to another region. transit reduces because of reduction in ridership. This is double the time taken to reach destination in a car. BENEFITS MODES OF TRANSIT AND PEOPLE MOVED PER HOUR GTHA PRIVATE CAR 600 - 1,600/HR **TRANSPORTATION** SERVICE OFFERINGS & FARES egional connectivity for Ontario. commute to other municipalities for COMMUTER SCHEDULING work and leisure, transit times and service offerings become sparse, and communities or in mid-sized cities fares increase. Although many of in the GTHA, a 9-5 Toronto can be CAR CULTURE IN URBAN PLANNING the municipalities closest to Toronto accommodated relatively easily. Connectivity barriers drive car also use the PRESTO pass provided culture forward. Coupled with by Metrolinx for fare transactions For those with working hours larger systems and stakeholders of on their transit systems, many outside of the standard 9-5 working communities further out from the nfluence like fossil fuel companies day, some of the Go Transit lines let city center do not. This means that and automakers, Ontarians like riders down. Lakeshore East and the personal at-will freedom that carrying cash, or a separate bus pass West offer regular service under for other transit systems is required car ownership allows – and urban 1 hour and 40 minutes for the in addition to the PRESTO card. olanning doesn't make things easier furthest stop from Toronto, but the KITCHENER LINE BARRIE LINE LAKESHORE W LAKESHORE E rest of the lines are spottier. or a transit-forward future. There are clear recent signs suggesting that car culture is still strong among Ontarians. For DECISIONS, DECISIONS nstance, as we approach incoming A day on the life of an Ontarian liv--- Proposed Inter Region Micro Transit elections in the province, a new ing in a smaller city/community, and regulation lowers existing taxes on Proposed Inter Region Transit needs to travel by transit to a mayor fuel. Arguably this measure looks to CAR USERS ARE city for work or study. increase the government's popularity Existing Go Lines on the verge of elections. BETTER CONNECTED Proposed Improvements for First and Last Mile ECONOMIC GROWTH Municipal Transit \$2.47 ACCESS TO TRANSIT ENTRY POINTS rom the capit billion billion The infrastructure supports car 5,300 full time jo GDP ulture eg. parking lots. investmen ransit lines an in transit increase 1.49X economic growth for every 1\$ of public transit investmen METROLINX REPORT 2007 **Deaths vs Mode of Travel** A report from the US 1 in 101 claims that public transit is 10 times safer per mile than driving a personal vehicle.⁷ Not only does safety increase for a driver who opts to take transit instead, but roads also become ENVIRONMENTAL IMPACT safer with fewer cars. 1 in 3.396 POINTS OF INTERVENTION On a individual basis, switching from a 32KM commute via car to a com-Although a person's mute by existing transit can reduce annual emissions for a two car houseodds of dying in a car hold by 48,000 pounds of CO2.13 On a grander scale, The American Public accident are one of the ransportation Association suggests that public transit may account for highest non-health related fatality causes,8 too few to calculate the saving of 1.4 billion gallons of gas and 14 million tonnes of carbon dioxide annually. 14 And although studies out of Ottawa do suggest that **SYSTEM** pedestrian and bicycle odds itrogen oxide, a green house gas, is contributed largely by public transit buses through their combustion diesel engines, 5 things are looking up for motor vehicles are electrification of public transit with a \$2.75 billion commitment from the both on the rise.910 Federal government for municipalities and provincial transit systems.16 REGIONAL TRANSIT COALITION The goal of a regional transit coalition is not only to increase connectivity INFRASTRUCTUR but to increase ridership as well. Although the mentality of "build it and 1.4 billion gallons of gas they will come" may hold true for a certain number of potential riders, the STRESS FREE VIEWS culture of car ownership is pervasive, and several levels of government are 14 million tonnes of CO2 OPTIONS FOR THE FIRST & LAST MILE V___ still prioritizing personal vehicles over a network of accessible public transit ANUALLY saved from **ELECTRIFICATION** of public transit When a driver turns to a rider and no longer COMMINGLED MUNICIPAL TRANSIT SYSTEMS spends commuting time behind the wheel For the larger urban centers just outside of Toronto, there may be value of the car, stuck in traffic or frustrated by the behaviour of other drivers, their health in connecting the Toronto Transit Commission (TTC) with the separate municipal systems. increases. 18 While on transit, a rider gets to data tracking to plan future routes is a good way to go. enjoy the views of their city or the in-between spaces of rolling fields in the Ontario green INTER-REGION MASS TRANSIT belt while spending time they wouldn't have otherwise listening to podcasts, reading, or Metrolinx strategy. catching up on emails. TRANSIT-ORIENTED DESIGN Development, and vice versa.

DECISION MADE! Identified by the dotted green lines, the first and last mile needs some consideration from municipal and provincial governments if transit ridership is going to increase. For transit systems that already have a transit system, improving walking and biking infrastructure and building more density around hubs will promote use. For those that do not have transit systems, using the Innisfil model and Uber for The solid purple lines represent Go Bus lines as well as some of the private carriers on offer in Ontario now and what is likely to exist in the future as a part of the Sprawl is the enemy of transit: the more widespread the population of Southern Ontario is, the harder it becomes to connect many people to transit. By freeing the transit system from the car, by connecting the first and last mile, there is now more room to reconsider Transit-oriented Development. Parking lots surrounding regional transit can be reduced and opened for development of density. Providing better connectivity for the first and last mile reinforces Transit-Oriented **BEHAVIOUR** INTER-REGION MICRO TRANSIT — — — Inter-region micro transit may be the most When cities plan to move people and not cars, congestion is reduced. The Naimportant piece of a more robust transit tional Association of City Transportation Officials (NACTO) compiled data tosystem in the region, and likely needs a gether to show how many people can be moved per hour via different modes INTERVENTION **POLICY CHANGES** coalition of municipalities to make it work. of transportation.¹⁷ When less people choose cars, buses are able to move **CONGESTION TAX** The dotted blue lines indicate the possibilities quickly between stops and highways and roadways can be used with great A congestion tax or toll is the most impactful suggestion for reducing road for current road systems that connect midease and safety by shipping vehicles, emergency vehicles, and other services FUTURE OF ACCESS and highway use by some economists. Although politically unpopular, sized and smaller cities in the region. It may that keep the economy going. In the current model and shown in increased tax revenue should result in better transit service if applied prove fruitful for cities to partner on these the below graphic, cars provide the to car owners by municipalities and by initiatives and offer on-demand bus routes most access to employment and accollecting tolls along major highway routes. between municipalities close by. If enough tivities. However, research has found municipalities make these agreements with that that at the highest levels of each other and provide a web service or app accessibility to transit, participation although incentives are popular for riders, to make these connections easier. in various activities equalizes across disincentives for personal vehicle use will likely It may prove fruitful for cities to partner carless, low-income, and more affludrive a shift to public transit while lines and on these initiatives and offer on-demand ent households.¹⁸ infrastructure is being built. One way to encourage bus routes between municipalities close this is by partnering with businesses through tax by. If enough municipalities make these incentives or policy recommendations to reduce agreements with each other and provide free parking options at work. a web service or app to make these connections easier.