Resumes & Documentation
Tompkins MaaS Phase 1
Tompkins County, NY

Dwight Mengel, Chief Transportation Planner, Tompkins County Department of Social Services
Matthew Yarrow, Assistant General Manager, Tompkins Consolidated Area Transit, Inc.
Carol Schweiger, Schweiger Consulting LLC
Hari P. Udyapuram, CEO, Urban Mobility, Inc.

Dwight E. Mengel

dwight..mengel@dfa.state.ny.us (607) 274-5605

Accomplishments

- Created business model and proposal for MaaS Phase 1 Projectl: Multimodal Trip Planning, Integrated Customer Service & Rural First Mile-Last Mile Pilot, 2019
- Tompkins County's representative to the FTA On-Ramp Program 2018-2019
- Managed Tompkins County's (Ithaca, NY) Community Mobility Management Strategy since 2006.
- Organized program, event plans and video archive of the Mobility Solutions Summit and Transportation Camp Ithaca in June 2016.
- Initiated Way2Go, a comprehensive community mobility education program (http://Way2Goinfo.org) and the regional program www.MoveTogetherNY.org
- Manage Tompkins County's Coordinated Transportation Planning Program
- Initiated Basecamp sites for the NY Mobility Manager Network, Medicaid NEMT impacts on Community Transportation systems, etc.
- Grant manager for Federal Transit Administration (FTA) and New York State Department of Transportation (NYSDOT) public transportation programs since 1981.
- Created innovative concept for Mobility-as-a-Service for small urban and rural communities, 2012-on.
- Advocate for innovative programs: bike racks on buses, hybrid-electric buses, web-based trip planner, and multimodal passenger facilities.
- Project manager for service and fares consolidation study that created Tompkins Consolidated Area Transit (TCAT) from three transit systems, 1997-99.
- Assisted GADABOUT Transportation Services, Inc. (paratransit operator) to qualify for state transportation operating assistance that doubled their budget, level of service and ridership, 1993.
- Coordinator and Program Manager for construction of the Ithaca-Tompkins Transit Center (1989-92).
- Organized County's effort to establish the Ithaca-Tompkins County Transportation Council (I-TCTC), 1991-92.
- Planned, implemented and managed Tompkins County's public transportation system – TOMTRAN, 1981-97.

Chief Transportation Planner, Tompkins County Depart. of Social Services, 2006 - present

- Developed Mobility-as-a-Service model for small urban & rural communities.
- Developed DSS transportation programs with the priority of serving mobility needs of low-income households, rural residents, seniors and people with disabilities.
- Developed County's Community Mobility Management Strategy to increase the supply of mobility services to meet significant unmet demand for travel by individuals.
- Co-Chair of County's Coordinated Public Transit and Human Service Transportation Plan with Ithaca-Tompkins County Transportation Council (ITCTC). (www.tccoordinatedplan.org)
- County's grant manager for all federal and state public transportation programs.
- Manage County's responsibilities as Designated Recipient and FTA Grant Recipient. Oversee Designated Recipients compliance and Triennial Reviews.

- Supervise the work of Mobility Program Specialist, project assistants, contractors and consultants.

Service Development Manager, Tompkins Consolidated Area Transit, 1997–2006

- On management team which consolidated three transit systems into TCAT.
- Project Manager of TCAT Fare and Service Consolidation Study.
- Planned annual capital budgets, NYSDOT capital needs assessment and made recommendations for programming federal transit funding to the I-TCTC.
- Collaborated with TCAT team to generate ideas and coordinate planning for capital projects, improve customer service, revise services, generate revenue and manage costs.
- Federal & State Grant Manager and oversight compliance.
- Conducted and advised on many procurement activities using FTA & NYSDOT funds to purchase professional services, equipment, construction, vehicles, and contracting with third-party transportation operators.
- Evaluated performance and productivity of transit services, ridership and user revenue programs. Collaborated with Cornell University School of Operations Research on computer bus schedule simulation project.
- Supervised the work of project assistants and consultants.

Transit Manager, Public Transportation Division, Department of Public Works, 1993-1997

- Transit Manager of Tompkins County's public transportation program - TOMTRAN.
- Managed three private transportation operators, operating and capital budgets.
- Member of Consolidation Committee charged with planning and implementing consolidation of three public transit systems (Tompkins County, City of Ithaca and Cornell University) into a single system (TCAT).

Chief Transportation Planner – County Planning Department, 1990-1993

- Transit Manager of Tompkins County's public transportation program TOMTRAN.
- Chair of Steering Committee for consolidated transit facility project used by County, City of Ithaca, Cornell University transit systems and GADABOUT paratransit services. Secured $3.15 million FTA grant. Planned $6.0 million project budget.
- Program Manager for ITTC. Coordinated work of design team for functional planning and layout of the 50,000 sq. ft. facility. Coordinated specifications and supervised procurement of shop and office equipment, furnishings, interior design, and communication systems. Managed program budget. Prepared environmental assessment. Coordinated local approvals of project. Member of ITTC Operations Committee which oversaw operations of fleet maintenance and support functions of the ITTC.
- Initiated local effort to organize the Ithaca-Tompkins County Transportation Council following designation of the Ithaca urban area in 1991.

Senior Planner – County Planning Department 1982-1990

- Transit Manager of Tompkins County's public transportation program TOMTRAN. Planned and expanded public transit service to rural towns throughout County.
- Collaborated with City and Cornell staff to conceive the Ithaca Tompkins Transit Center Project.
- Collaborated with City and Cornell staff to develop Cornell's employee transit pass program.

Planning Technician - Planning Department. 1980-1982.

- Wrote successful application for Appalachian Regional Commission grant to fund TOMTRAN, Tompkins County Multi-model Public Transportation Program, awarded $200,000.

- Developed & implemented TOMTRAN project elements: rural transit, suburban transit, jitney service, ridesharing, school bus utilization, paratransit and park & ride.
- Pioneered use of first microcomputer in County government.
- Wrote final report on TOMTRAN for Appalachian Regional Commission.

Memberships & Collaborations

- FTA MOD On-Ramp Program
- US DOT, Mobility Services for All Americans (MSAA), National Stakeholder Committee Member.
- National Center for Mobility Management, National Advisory Committee Member.
- New York Mobility Managers Network, organizer, Basecamp sites sponsor, 2014-on.
- New York Public Transit Association, officer, board member, active member since 1985.

Contributor, "Assisting a Public Transit Agency with Planning of Bus Schedules Using Computer Simulation: A collaborative project between Cornell University and Tompkins Consolidated Area Transit (TCAT) in Ithaca, NY", Nirav Shah, Jonathan Helm, Abha Dubey, Wenshan Xu, and Francis Vanek, Department of Operations Research and Industrial Engineering Cornell University and Rod Ghearing and Dwight Mengel, Tompkins Consolidated Area Transit (TCAT), 2007.

Presentations

Presented on the Topic – "Mobility as a Service (MaaS) for Small Urban and Rural Communities"

- ITS New York, Saratoga, NY 2019
- Transportation Research Board Conference, Baltimore, MD 2019
- Mobility Innovation Summit, Rochester, NY, 2018
- National Center for Mobility Management, APTA Peer Roundtable, Atlanta, GA, 2017
- Community Transportation Association of America, 2017 EXPO, Detroit, MI
- ITS World Congress, Montreal, CA, 2017
- 22nd National Conference for Rural Public & InterCity Bus Transportation, October 2016
- Community Transportation Association of America, 2016 EXPO, May 25, 2015
- NYS Association of Metropolitan Planning Organizations, 2015 Conference.
- Association of Commuter Transportation (ACT) Canada, 2014, "Mobility as Retail"

Awards

George Rucker Memorial Award, Community Transportation Association of America, 2015.

Social Media

Dwight Mengel | LinkedIn
https://www.linkedin.com/in/**dwightmengel**

Education

Cornell University, Department of City and Regional Planning, Ithaca, New York, Graduate studies in Masters Program, 1979-80. Returned to complete MRP in 2019.

Colgate University, Hamilton, New York. Bachelors of Arts Degree conferred 1977. Concentrations in American History and Political Science.

Matthew M Yarrow

119 Cascadilla St, Ithaca NY 14850 • Phone: (607) 319-9639 • E-Mail: myl@tcatmail.com

Education

Ph.D in Ecology, Universidad de Chile 3/04 – 6/10

As a member of the Ecological Modeling Lab, I participated in an international interdisciplinary project that created integrated management tools for stakeholders in southern Chile. My thesis addressed the spatial aspects of nutrient cycles.

Bachelor of Arts, Oberlin College 8/94 – 5/98

My major was biology and environmental studies. GPA of 3.75.

Certificate in GIS, University of Washington 10/07 – 6/08

Practicum project with People for Puget Sound, mapping stormwater outfalls.

Certificate in Wetland Science and Management, University of Washington 10/01 – 6/02

Practicum project with City of Renton WA; I created a restoration plan for an urban wetland.

Experience

Assistant General Manager, Transit Development and Planning, TCAT, Ithaca NY 2019 - present

I am responsible for managing the long range service planning, improving current service levels, recommending and implements fare changes, leading run cutting activities and overseeing transit amenities program. I have played a role in planning for a new transit facility and in leading a recent strategic plan. I am currently leading a first-mile/ last mile pilot project in an outlying area of Tompkins County.

Service Development Manager, Tompkins Consolidated Area Transit, Ithaca NY 2016 - 2019

In this position, I was responsible for long range transit service planning, run cutting activities, project management of the CAD-AVL and real-time passenger information project and providing oversight of the passenger amenities planning program. I participated in community planning meetings at all levels to ensure TCAT is represented and to bring an understanding of development and transportation trends in the County back to TCAT.

Service Analyst/ Grant Research Assistant, Tompkins Consolidated Area Transit, Ithaca NY 2012 - 2016

I worked as an analyst/assistant planner doing ridership analysis including fare collection reporting, service level trends, and service demand. I prepared state and federal reports on a monthly, quarterly and annually basis. I worked with the Service Development Manager to identify new service prospects from both private and public sectors. I researched funding sources for unfunded projects, assisted with grant research and writing. I was responsible for all mapping and most data visualization needs for the organization.

GIS Analyst, Community Science Institute, Ithaca NY 2010 - 2015

I worked part-time for an environmental non-profit doing spatial analysis, map-making and volunteer trainings.

Business Analyst/Assistant Manager/Carpenter, Argos Inn project, Ithaca NY 2009 – 2012

I investigated and wrote a 70 pp business plan for local inn/lounge startup. Using MS project, I created a project timeline and scheduled sourcing and subcontractors. I assisted the LEED consultant in preparing for LEED certification. Finally, I have worked as a carpenter and mason at the project site.

Sidewalk Inventory Specialist, Dept. of Transportation Planning, Bellevue WA 2008

The main tasks were to conduct an ADA sidewalk accessibility survey with hi-tech Segway & GPS and assist in creation of an ADA Transition Plan (included writing, data analysis, and mapping).

Instructor, Technology Access Foundation, TechStart Program, Seattle 2007- 2008

I developed curriculum & taught an after-school program at two low-income elementary schools.

Independent Consultant, Chilean Environmental and Agricultural Service 2005-2006

I co-produced a report on the socio-economic effects of secondary water quality norms for a basin in Chile.

Publications

Penningroth S, Yarrow, M, et al. (2013) Community-based risk assessment of water contamination from high volume horizontal hydraulic fracturing. New Solutions, 23:137-166.

Yarrow M, Marin V (2009) The ecology of *Egeria densa*: A wetland ecosystem engineer? Revista Chilena de Historia Natural 82: 299-313.

Yarrow M, Tironi A, Ramirez A, Marin V (2008) An applied assessment model to evaluate the socioeconomic impact of water quality regulations in Chile. Water Resources Management. 22:1531-1543.

Yarrow M, Salthe S (2008) Ecological boundaries in the context of hierarchy theory. Biosystems. 95: 233-244.

Yarrow M, Marin V (2007) Toward conceptual cohesiveness: a historical analysis of the theory and utility of ecotones and riparian zones. Ecosystems. 10: 462-476.

Skills

Computer: Microsoft Office, esp. Word, Excel, Access, PowerPoint, Microsoft Project, Adobe Photoshop, ArcGIS 10.4, Stella Conceptual Modeling Software, R Statistical Environment, Sketchup.

Languages: Fluent in English and Spanish

Other: Research, Writing, Photography, Video Editing, Personal communication skills.

Carol Schweiger, President, Schweiger Consulting LLC

Ms. Schweiger has nearly 40 years of experience in transportation consulting, and is nationally and internationally recognized in the area of Intelligent Transportation Systems (ITS) and Advanced Public Transportation Systems (APTS). She is Co-chair of the Transportation Research Board (TRB) Committee on Emerging and Innovative Public Transport and Technologies, Chair of the New England ITS Board of Directors, a Charter Member of the Public Transportation Systems and Services (PTSS) Committee and Mobility on Demand Alliance of the Intelligent Transportation Society of America (ITS America), on the Advisory Board of and author for *Intelligent Transport* (a UK magazine), and member of the International Program Committee of the ITS World Congress, TRB ITS Committee and TRB Forum on Preparing for Automated Vehicles and Shared Mobility. She was a National Transit Institute (NTI) Fellow for Advanced Technologies and Innovative Practices from 1995 to 1997.

Education

B.S., Mathematics, Tufts University, 1978
M.S., Civil Engineering, Cornell University, 1980
Certificate, Administration and Management, Harvard University Extension, 1988
Certificate, GIS and Network Analysis Tools, Massachusetts Institute of Technology, 1989
Certificate, Transit Service and Operations Planning, Massachusetts Institute of Technology, 1980

Years of Experience

39

Ms. Schweiger provides detailed technical assistance, including systems engineering, technology strategy development and detailed technology procurement and implementation assistance, to transit and paratransit agencies, and state departments of transportation (DOTs) that are deploying ITS technologies, and to the USDOT and TRB. She has provided over 60 agencies with ITS technical assistance. Recently, she authored numerous articles and delivered multiple presentations to both national and international audiences about applying MaaS in the US. She co-developed and was the lead instructor for five transit ITS training courses for the NTI, and six USDOT Professional Capacity Building (PCB) courses on Transit Management Standards and Traveler Information Standards. Ms. Schweiger authored five TRB Transit Cooperative Research Program (TCRP) Synthesis reports, and authored one and co-authored two full TCRP reports.

Selected Transit Agency Project Experience:

- Tompkins County Mobility as a Service (MaaS) Development, Tompkins County Department of Social Services, Ithaca, NY, Advisor
- Transit Management Technologies Consulting, Gadabout (paratransit provider), Ithaca, NY, Project Manager and Technical Lead
- New Fare Collection System Consulting, LeeTran, Lee County, FL, Lead Technical Specialist
- Identification of Issues Associated with the CAD/AVL System and Development of Solutions, PalmTran, West Palm Beach, FL, Technical Specialist
- Real-time Transit Information System Consulting, Interurban Transit Partnership, Grand Rapids, MI, Project Management and Technical Lead
- Development of Specifications and Procurement of Public Transportation Scheduling Software and Other Technologies, York County Community Action Corporation (YCCAC), Sanford, ME, Project Manager and Technical Lead
- ITS Consulting, Norwalk Transit District (NTD), Norwalk, CT, Project Manager
- Transit Management Technologies Consulting, Southeastern Regional Transit Authority (SRTA), New Bedford, MA, Principal-in-Charge and Project Manager
- Transit Management Technologies Consulting, Worcester Regional Transit Authority (WRTA) , Worcester, MA, Principal-in-Charge and Project Manager
- CAD-AVL Scoping and Specification Development, Capital District Transportation Authority (CDTA), Albany, NY, Project Manager
- ITS Consulting, Metropolitan Tulsa Transit Authority, Tulsa, OK, Technical Specialist

- Fairfax Connector ITS Plan Update, Specifications Development, and Procurement and Implementation Assistance, Fairfax County Department of Transportation, Fairfax County, VA, Project Manager and Lead Technical Contributor
- Computer Aided Dispatch and Automated Vehicle Location Consultant, Ann Arbor Area Transportation Authority, Ann Arbor, MI, Project Manager and Lead Technical Contributor
- Development of Specifications and Procurement of Transit Management Technology, Immanuel (in-house non-emergency medical transportation system), Omaha, NE, Project Manager and Technical Lead

Selected U.S. Department of Transportation Project Experience:

- ITS for Underserved Communities, Technical Specialist
- Multimodal and Accessible Travel Standards Assessment (MATSA), Key Technical Specialist
- National Aging and Disability Transportation Center (NADTC) Technology Assistance, Technical Lead
- Mobility Services for All Americans (MSAA) Technical Assistance, Federal Highway Administration (FHWA)/Federal Transit Administration (FTA), Technical Lead
- MSAA Knowledge and Technology Transfer, FHWA/FTA, Technical Lead
- Accessible Transportation Technologies Research Initiative (ATTRI) International Support, FHWA, Intelligent Transportation Systems (ITS) Joint Program Office (JPO)/FTA, Technical Specialist
- United We Ride (UWR)/MSAA – Foundation Research, Phase I and Phase II Technical Assistance, FHWA/FTA, Project Manager

Selected State Project Experience: Transit Technology Planning, and Procurement and Implementation Assistance for New Hampshire DOT (NHDOT), Vermont Agency of Transportation (VTrans), Pennsylvania DOT, Tennessee DOT and Missouri DOT

Selected Training and Research Experience: available on request

Schweiger Consulting LLC, President, 2015-present
Responsible for all transit technology projects, activities, contracts and proposals.

TranSystems Corporation, Vice President, 1996– 2015
Responsible for TranSystems' ITS Group's activities, contracts and proposals.

EG&G Dynatrend Inc., Transportation Consulting Group, Senior Transportation Analyst, 1988– 1996
Responsible for EG&G Dynatrend's Transportation Consulting Group's ITS activities, contracts and proposals.

Dynamics Research Corporation, Senior Operations Research Analyst, 1979– 1988

Cornell University, School of Civil and Environmental Engineering, Teaching and Research Assistant, 1978– 1979

AVCO Corporation, Systems Division, Engineering Assistant, 1976– 1979

Publications and Presentations: Eight TCRP reports, one Congressional briefing regarding technology to facilitate mobility, numerous Federal guidance reports, and over 90 presentations to national and international audiences. Reports, papers and presentations available on request.

URBAN MOBILITY INC

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Date - August 1, 2019

Mr. Hendrik Opstelten,
Program Manager
Office of Research, Demonstration and Innovation
Federal Transit Administration
1200 New Jersey Avenue, SE
Washington, DC 20590

Subject: Tompkins County, NY IMI Proposal

Dear Mr. Opstelten,

I'm writing on behalf of Urban Mobility Inc.(HyperCommute®) to express our strong support for Tompkins County's Mobility on Demand Proposal for FTA's Integrated Mobility Innovation Demonstration Program. The County's proposal lays the foundation for developing Mobility-as-a-Service (MaaS) in the future by integrating multimodal trip planning, customer support and developing a rural first/last mile service as a first phase.

We recognize affordable, convenient and reliable transportation is needed by everyone, especially for individuals and families with limited income, seniors, people with disabilities and rural residents with limited affordable housing and transportation choices.

The County's project will integrate trip planning for inter-county bus routes from three neighboring counties and Tompkins County's transit system TCAT, along with TCAT's rural first/last mile pilot, carshare, and LimeBike. The Customer Service program will demonstrate an enhanced 24/7 guaranteed ride program and other services for a sample of people traveling to the County and for County residents. The Rural First/Last Mile Pilot will initially use demand response service to connect people with TCAT rural bus routes. Further, TCAT will evaluate volunteer driver, TNC and taxi options for providing this service.

Urban Mobility's technology - HyperCommute® offers real-time trip planning using multiple carriers with guaranteed transfers. In the First/Last Mile project, we are connecting dynamic shuttle routes and carpools to scheduled TCAT routes.

We believe this proposal can become the foundation for developing MaaS as an affordable, sustainable, and equitable community mobility system in the near future and for generations to come.

Respectfully yours,

Hari P. Udyapuram
CEO
Urban Mobility Inc | Hypercommute®

support@hypercommute.com
www.urbanmobilityinc.com

JOURNEY

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CAB2SHARE ™

HYPERCOMMUTE®

The initial version of the route planning engine was developed and extensively used for logistics consulting during 2009-2011 period. Engine's ability to solve hard optimization problems at blazing speed and to model business constraints gave it an edge over other existing solvers which usually ran into feasibility issues. It is powered by deep learning and cutting-edge artificial intelligence algorithms which helped it to solve hard routing problems. The first commercial version was custom-tuned for Lufthansa Technik to optimize airport operations at Hamburg and Frankfurt, Germany. Later it was used for employee transportation problems arising in BPO industry with floating shifts and for last mile delivery problems. The core engine was then extended to incorporate business constraints and made programmable by end of 2012. Area maps, road networks and ETA computations were perfected with the availability of Google Maps, real-time traffic information.

Starting 2013, efforts were put into building on-demand shared routes. Hari founded **Competent Logistics Flow Private Limited, India** and rolled out **cab2share™** service (later re-branded to **c2s)**, secured an angel investment of $100K to launch shared rides to airports, railway stations, and offices in New Delhi, India. c2s aggregated independent drivers with cars and matched them to riders seeking shared rides. 10,000+ rides were booked in the first 6 months of operation before company decided to move into SaaS model. Extensive software infrastructure was developed to facilitate operations, manage ride requests, and aid drivers.

In 2015 and 2016, the on-demand shared route construction algorithm was extended to higher capacity vehicles like minibuses. Also, the company invested in the collection, storage, and processing of big data which considerably improved ETA estimations, user experience, and route planning. Further route building was perfected for short runs and customized for FMLM use.

Seeing the potential to offer an option to transit agencies to increase their presence in transit-desert areas, the company started looking into the integration aspects and designing great customer experience around transfers. In 2017, Hari founded **Urban Mobility Inc, USA** (incorporated in USA) and secured $200K investment from family and friends to perfect the platform for multimodal ride-sharing and serve as a FM/LM partner to transit agencies. Urban Mobility released **Hypercommute® - First Mile Last Mile software platform.** Urban Mobility also developed a simulator to run real-time scenarios and see the impact of using minibuses and cars for FM/LM service associated with certain transit routes in Tompkins County.

Since May 2018, Urban Mobility has been working closely with TCAT to design the FM/LM pilot project for Tompkins County. The company has spent last several months on customizing customer, driver, and dispatcher applications and preparing for the roll-out. Also it is in active discussions with MATA (Memphis transit), CENTRO (Syracuse), SEPTA (Pennsylvania) and many industry experts to continuously evolve its product.

HyperCommute®

product of Urban Mobility Inc. © 2018

HyperCommute® is software built by Urban Mobility on an algorithm that seeks to increase utilization of shared-transportation modes. It supports multi-modal trip matching and is thus the ideal solution to address the FM/LM problem. The algorithm allows trip sharing by grouping similar trip requests in space and time, thus support dynamic routing of FM/LM vehicles. The real-time aspect of the algorithm incorporates last minute changes like trip cancellations and ride requests. Previously, demand-responsive modes - like paratransit – required significant lead times (24-48 hours) for the building of daily driver manifests. HyperCommute automatically builds a driver manifest based on real-time changes – as long as those changes do not violate the trip parameters already communicated to scheduled riders on a particular trip. HyperCommute® sends changes to the electronic manifest to a web-enabled tablet in a FM/LM vehicle and to dispatchers monitoring the service from a central office.

Some other key aspects of the HypreCommute® algorithm:

- The matching engine provides for an optimized way of calculating the cost of matching demand to a dynamically-built route and is configurable enough to choose various cost metrics like distance, time or a weighted function of the two.
- High-speed dynamic routing engine ingests real time updates and performs feasibility checks at blazing speed to optimize riding experience.
- Machine learned corrections improve the accuracy of our calculations and helps meet Service Level Agreements reliably.
- The algorithm is built on complete road network with turn-by-turn details and is frequently updated for transit times, traffic and weather updates.

HyperCommute is essential in that it underlies the reliability of transfers from FM/LM vehicles to fixed-route transit (and vice versa). The algorithm ingests

real-time transit vehicle position and maps it to the route building process to compute the optimal transfer points. Alternatively, an agency can establish accepted transfer point from the outset and the software will optimize transfers at these locations. The system infrastructure is built to facilitate the transfer by sharing information with the drivers and dispatchers - allowing an agency to schedule transfers as tight as can be reliably managed. This removes one of the barriers that riders often cite when asked to transfer between two vehicles to complete a trip: anxiety that the connection will be missed if scheduled too tight or dissatisfaction with long wait times if the scheduled transfer is too long. HyperCommute is unique in the market in its ability to support optimized, anxiety-free multimodal transfers.

HyperCommute is also focused on creating a great customer experience. Customer interfaces provide information about the availability of services to reach transfer points in a real-time fashion. A rider then can request a ride on a suitable transportation mode through these interfaces. The riders get notified about the pick-up time and location and will be able to track the vehicle. Vehicle ETAs are updated in real-time and riders are notified about any changes or delays.

HyperCommute is available on the Apple App Store. The FM/LM functionality will be added to the publicly available version once Task 1 of this project is complete. The HyperCommute trademark is approved – see https://trademarks.justia.com/877/43/hypercommute-87743992.html. In addition, Urban Mobility filed a provisional patent last year and is submitting a revised version shortly (see attached file).