Building Livable Communities with Transit

The University of Maryland
A Partner for Transit and TOD

Purple Line

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Overview

- Located inside the Capital Beltway just north of Washington D.C. extending east-west from Montgomery County to Prince George’s County
- 16-Mile Light Rail corridor
- Connects four existing Metrorail lines (two in each county)
- Connects three MARC commuter rail lines
- Connects Amtrak rail service along the Northeast Corridor
- Study corridor extends through the University of Maryland
- Corridor accounts for nearly 10% of the Metropolitan Washington region’s transit trips
Project Area Map
Locally Preferred Alternative (LPA)

- Light Rail: mainly surface-running in dedicated or exclusive lanes
- 21 Stations
- 56 minutes from Bethesda to New Carrollton (end to end)
- Ridership: 64,800 daily riders
- Cars off the road: 19,200 daily
- 43% will use Metrorail for part of their trip
- 2 maintenance facilities
- Capital Cost: $1,517 Million (2009)
Why UM Needs Purple Line

• Limited east-west travel routes are highly congested and projected to become more congested
• East-west transit services are slow, unreliable and disjointed
• Shuttle UM serving east-west corridor has infrequent service
• Existing Metrorail station is located one mile from campus
• UM is largest employer in PG County
• UM has large scale development plans
University of Maryland

• 5 Stations serve UM
  - UMUC
  - Campus Center
  - East Campus
  - College Park Metrorail
  - M² Research Park

• Length from UMUC to M² Station is 2.2 miles
• Approximate travel time from UMUC to M² is 11 minutes
Existing Conditions

• Attractive, suburban university campus of 36,000 students, 12,000 employees, and many visitors
• University administration historically opposed to Metrorail on campus
• Administration has set concepts about light rail on campus
• Campus core is not connected to emerging campus development areas
• Very slow moving vehicular traffic along primary route through campus (Campus Drive)
• Large numbers of pedestrian crossings (25,000 crossings for 12-hour period)
• Extensive bus travel through campus by multiple providers (750 buses, one bus/minute)
University Concerns

- Pedestrian safety
- Aesthetics
- Traffic and transit operations
- Impact to research (EMI & vibrations)
- Noise
- Accessing existing parking lots
- Financial impact to University
- Maximizing developable space
Objectives

• Minimize conflicts with automobile traffic
• Co-exist safely with pedestrians
• Connect five distinct University activity centers
• Provide intermodal connectivity with buses and Metrorail
• Complement aesthetic and architectural character of campus
• Create a pedestrian-friendly corridor through the campus core
• Support University Master Plan
• Develop cost effective transitway to serve UM
• Provide conveniently located stations
• Minimize impact on existing and future scientific research (EMI & Vibrations)
Pedestrian Safety and Aesthetics

University of Maryland (Original Concept)
Pedestrian Safety and Aesthetics

Campus Drive “Pedestrian Plaza Concept”
Existing Campus Drive
Campus Drive “Plaza Concept”
Campus Drive Existing – Hombake Plaza
Campus Drive “Plaza Concept” - Hombake Plaza
Traffic and Transit Operations

- VISSIM traffic model shows cars, transit vehicles, trucks and pedestrians
- Models Campus Drive for 2030 without Purple Line and remaining open to car traffic and buses
- Models Campus Drive for 2030 with Purple Line, reduced buses and closing Campus Drive to car traffic
Simulation - 2030 Build North of Circle (11:55 am)
EMI and Vibrations

- Took ambient Electromagnetic Interference (EMI) and vibration measurements
  - EMI is created by electric current in overhead catenaries and geomagnetic perturbations (moving vehicles)
- Analyzed potential impacts on research facilities
- Studied EMI and vibration issues and mitigation for light rail at other Universities
- Identifying appropriate mitigation measures
- Established working group comprised of UM administration, science professors, MTA and EMI consultants
EMI Mitigation

DOUBLE FEEDER

Not to Scale

CONTACT WIRE

FEEDER WIRE

TEST LOCATIONS

BRail

BCatenary

BFeeder

hC

hF

dF
dF

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Fitting Purple Line into Proposed Development

- Worked with developer to identify best location for Purple Line
- Includes retail, office, entertainment venue, student housing

TOD - East Campus Development
Building Livable Communities with Transit

TOD - College Park Metrorail Station

- Worked with WMATA and developer for convenient connection to Metrorail, fitting into development
- Includes residential and commercial joint development
TOD - College Park Metrorail Station
TOD - M² Research Park
TOD - M² Research Park

- Working with UM and developer to locate station
- Includes federal agencies, private research facilities, etc. on land owned by UM
Strategies and Lessons Learned

• Carry out an inclusive and collaborative process with all stakeholders
• Conduct detailed traffic and pedestrian studies
• Emphasize potential short-term and long-term benefits
• Use multiple visualization tools (renderings, VISSIM, LRT videos)
• Show successful examples of LRT passing through other University campuses
• Establish a working group with UM administration to address most difficult challenges
Contact and Website

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