

Commencement Traffic Operations

University of Massachusetts Amherst

Class Project
FOMgt 456, Spring 2004

By

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Goals:

- Reduce congestions around campus
- Decrease the time it takes to park
- Increase the rate of travel
 - To lots
 - To stadium

Our Process:

- Start from “scratch”
- Developed a traffic plan
- Recognized similarities in new and old plans
- Worked to reduce bottlenecks and overcome new obstacles

Techniques

- Compartmentalize campus
 - Identify areas of approach
 - Create isolated traffic patterns
- Maintain a constant flow of traffic
- Locate and clear up potential bottlenecks

Isolated traffic patterns

- Approaches campus from the:
 - South and West
 - South and East
 - North
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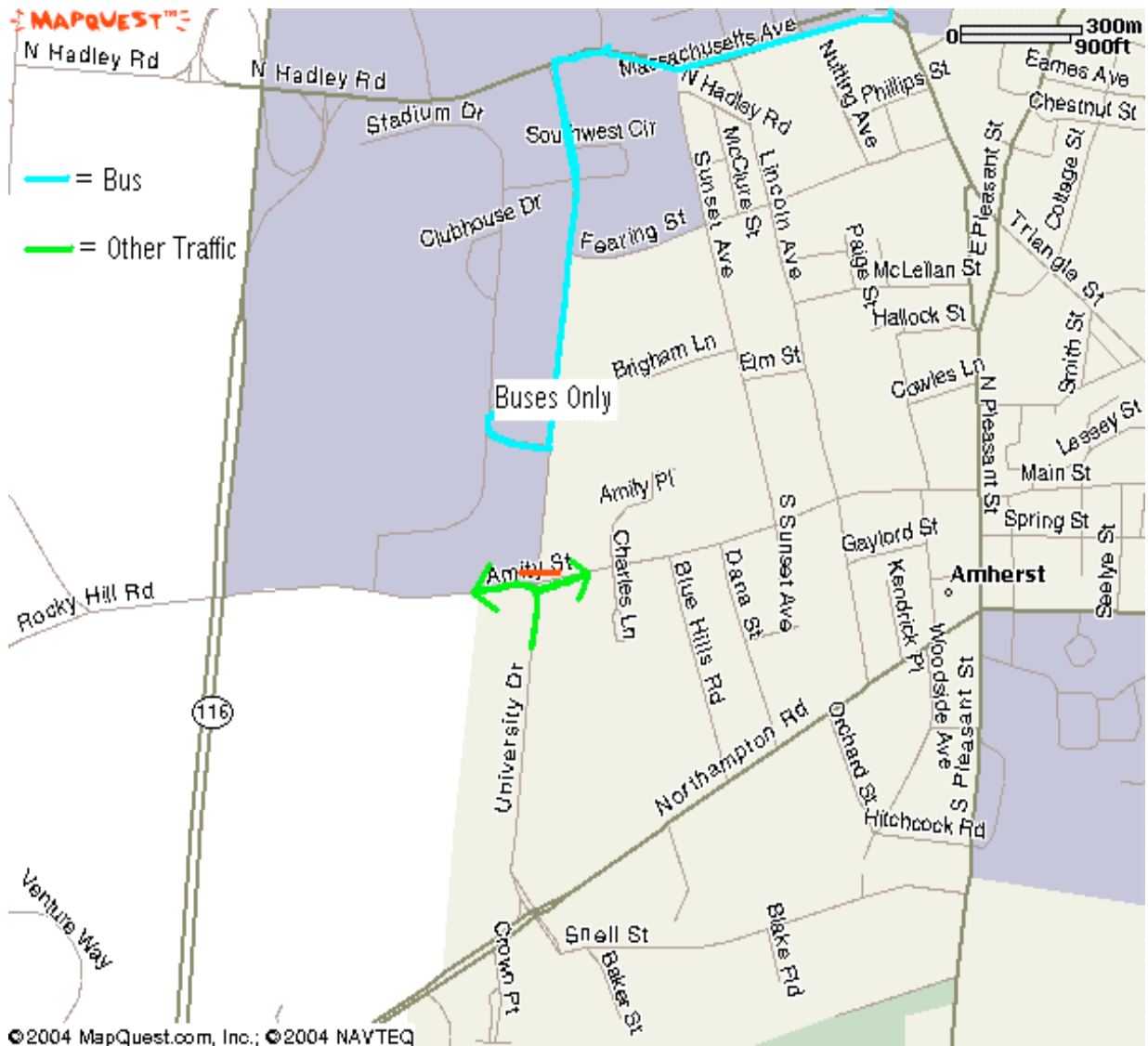
South and West

- Area of heavy bottlenecks:
 - Route 9 (Russell St.)
 - Route 116
 - University Drive
 - Congestion with buses

Assumption: The largest number of people arrive from the South and West on 116/University Drive via Route 9

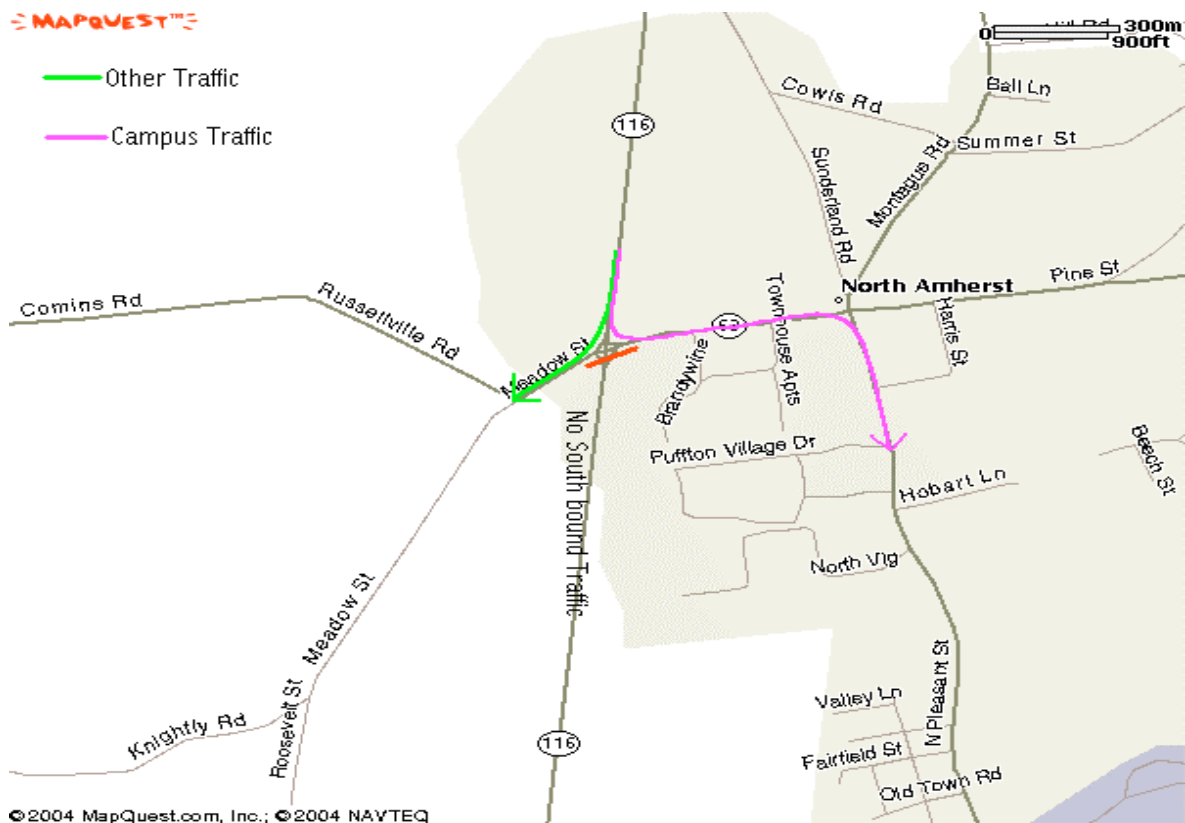
University Drive

- No through traffic
 - Signs posted, newspaper and radio notifications primarily for locals
- Shutdown completely at the intersection with:
 - Rocky Hill Rd./Amity St.
- Only buses between Amity St. and Massachusetts Ave.

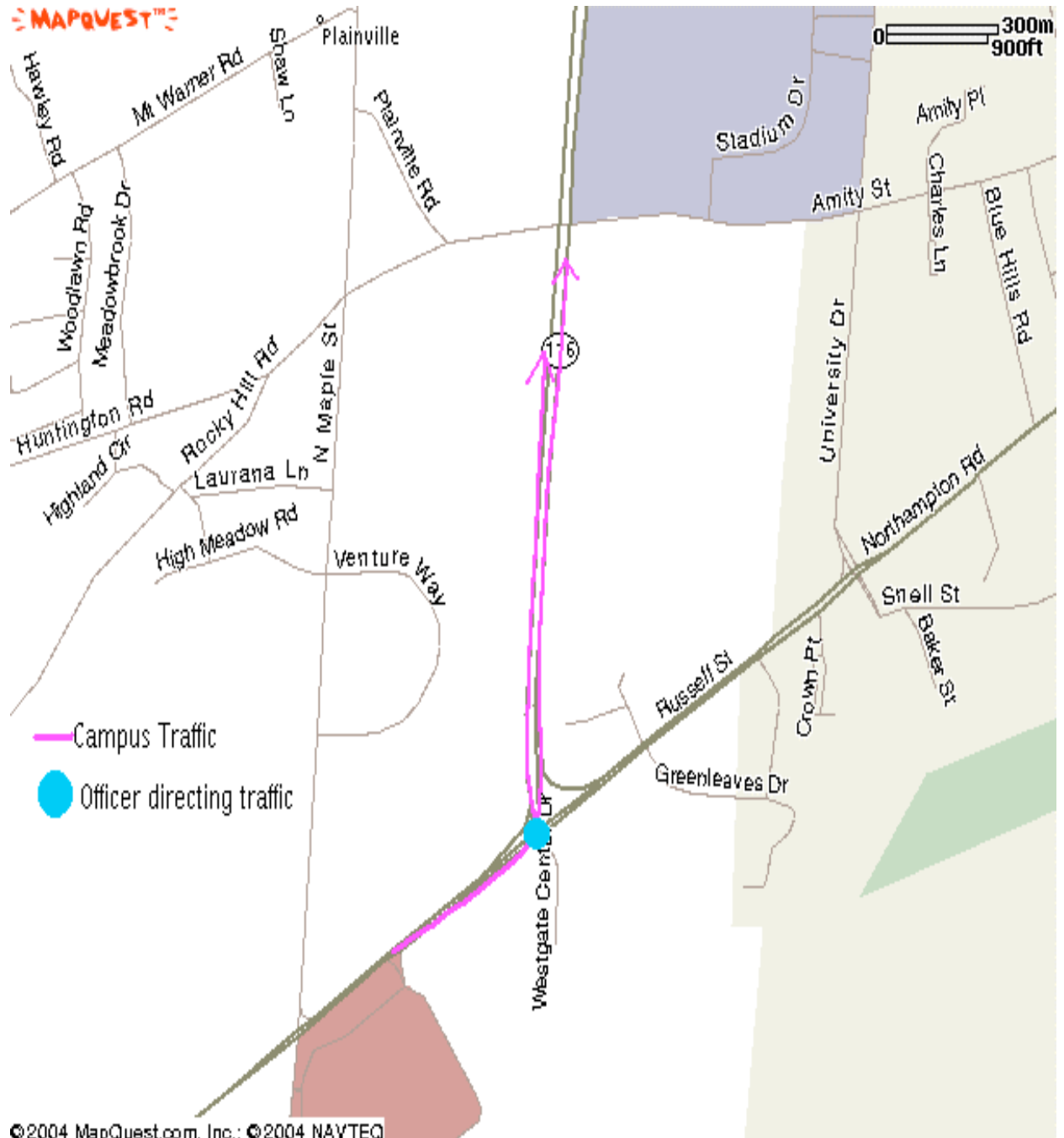


Route 116

- Primary route to campus
- An Officer should direct traffic at the intersection with Route 9
- Major bottleneck: One lane off ramp to UMass
- Solution
 - Shutdown 116 southbound at the intersection with Route 63 and Meadow St.
 - Direct through traffic to Route 9 via Meadow St
 - Direct campus traffic to N. Pleasant via Route 63
- Officer at Route 9 and 116 intersection may now direct traffic onto the southbound side of Route 116
 - Cones direct this traffic up the ramp on the left side

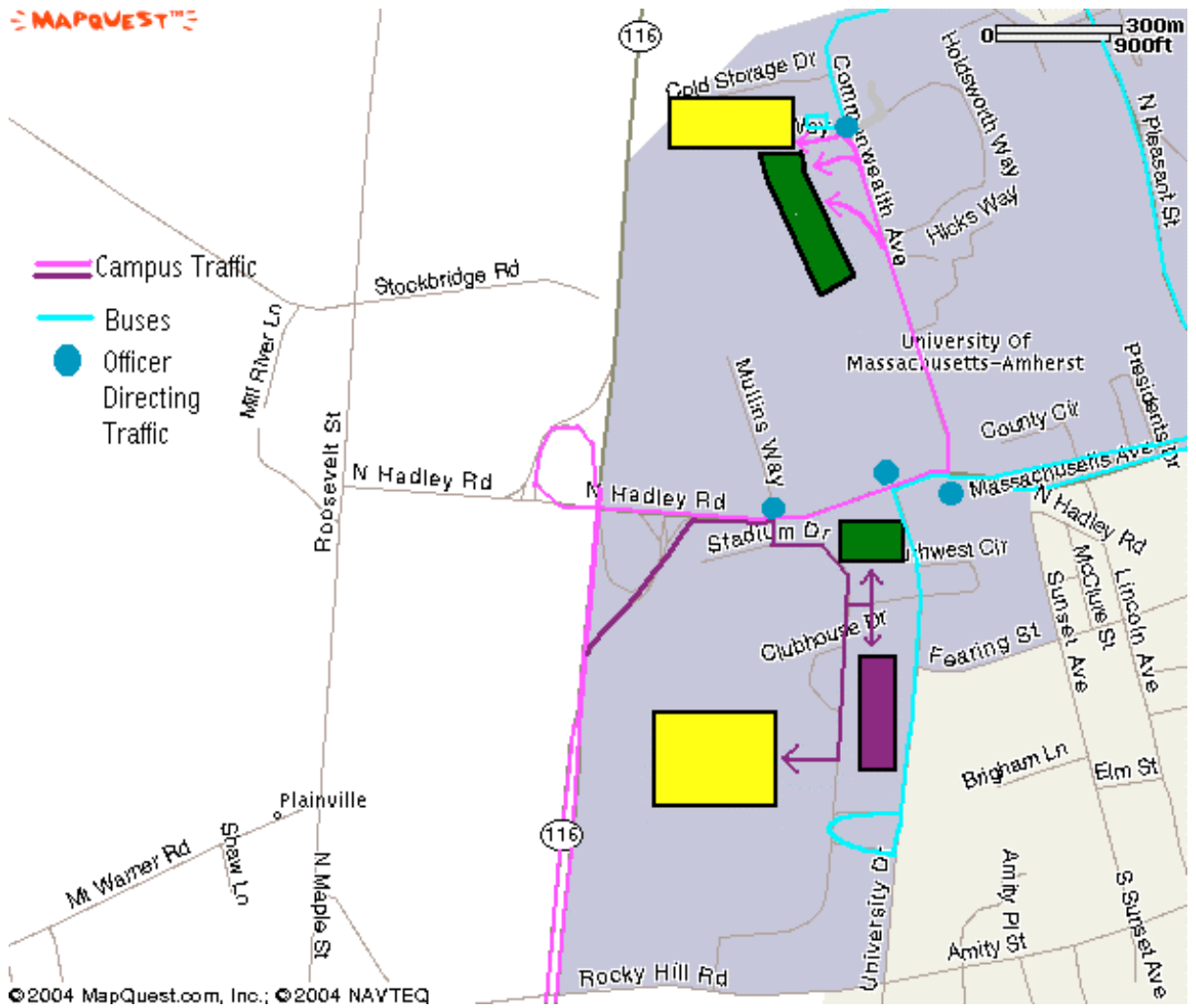


MAPQUEST™



Parking:

- Fill lots 11, 22, then 33
 - Total capacity: 2,117
- Then fill lots 25 and 12
 - Total capacity: 3,132
- To ensure smooth bus operation:
 - Officers should be placed at the intersection of University Drive/Mass Ave and Mass Ave/Commonwealth Ave.
 - Officers or staff should be placed as necessary at the current lot being filled



South and West potential options

- Increase Overall Volume:
 - Use three lanes of campus-bound traffic on N. Hadley Road/Mass Ave.

- Mark with cones each lane including one to wrong side of the median
- Use three or four lanes of traffic on Comm. Ave
 - Mark with cones directing specific lanes into lots 25, 12, 26, 31, and 38 simultaneously

South and West (Alternate approach)

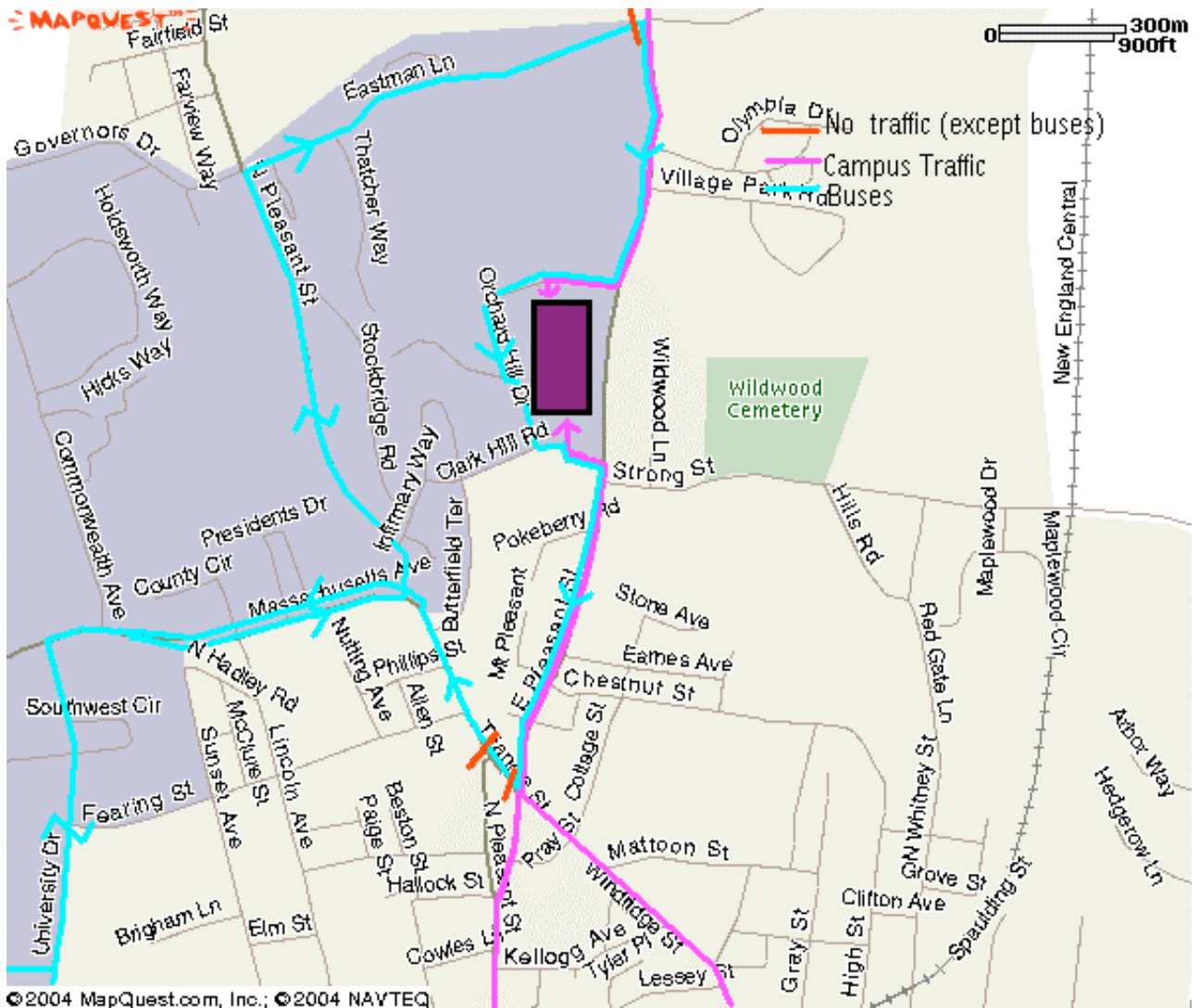
- University Drive: main approach to campus
- Make the entire length of University Drive one way toward campus
- Buses will use Stadium Drive to access the stadium
- Shut down Route 116 North so traffic will not interfere with buses
- Also:
 - N. Maple has the potential use as an approach to campus

South and East

- **Area of heavy bottlenecks:**
 - **Intersection between, East, North Pleasant St. and Triangle St.**

Assumption: The traffic flow here should not be very large.

- An officer should direct traffic on North Pleasant St. and Triangle St. to East Pleasant St.
- Traffic from East Pleasant, both directions, will be directed by an officer to fill lot 49 by the water tower.
- If that lot fills, traffic will then be directed to fill lots 49, and 29 by Butterfield Dormitory.
- From the stadium, buses will travel Mass. Ave. and take left onto North Pleasant St. through campus.
- Buses will then take right onto Eastman Rd. and make stops in front of Totman Gym, and Sylvan living area.
- They will then continue on and make a right onto East Pleasant St.
- They will then make a right onto Orchard Hill Dr.
- They will make stops at the entry point to lot 49, and also at the intersection at Clark Hill Rd.
- They will then get onto East Pleasant, where they will ultimately get back onto North Pleasant St. and head back to the stadium.
- Total Capacity of lots 49, and 29: 1014 cars

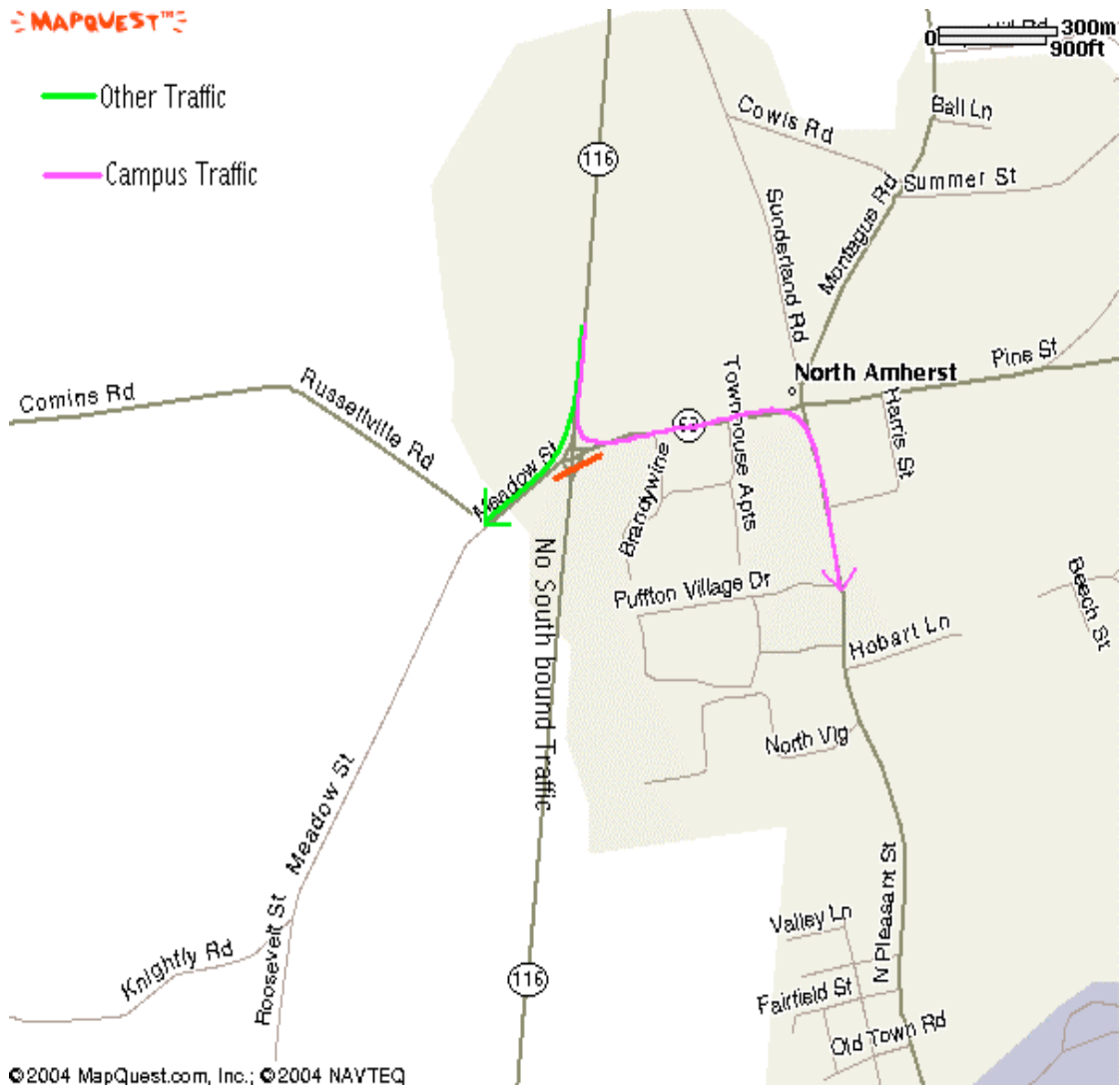


South and East Options and Alternatives

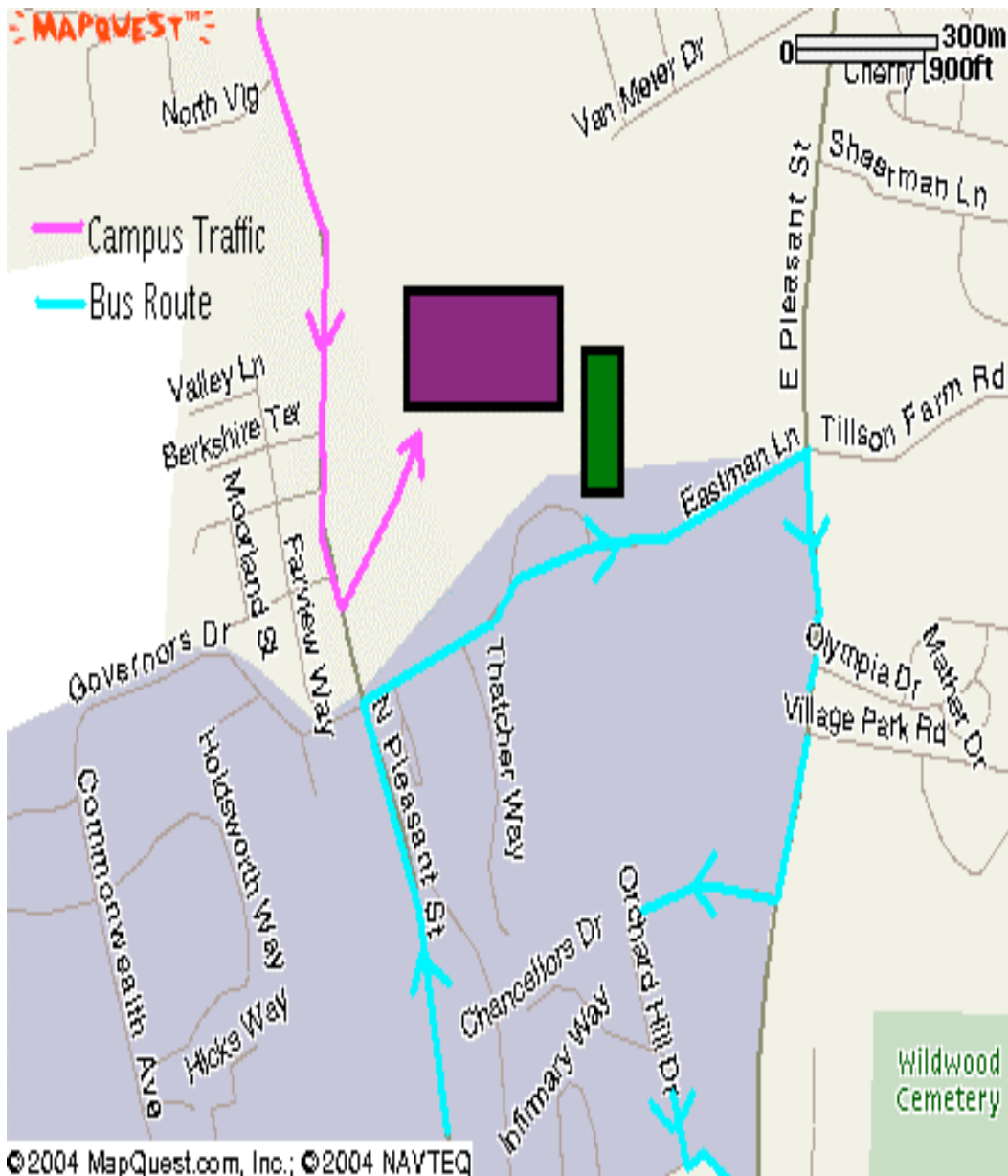
- Fill lots 32, 34 and 71 first utilizing one lane on Massachusetts Ave, reserving the other for bus traffic
 - Combined Capacity: 775
 - Allows for only one bus route
- If these lots reach capacity they should then be directed to lot 49 and the plan should continue as above

North

- Traffic heading on 116 south will be directed left onto Meadow St. by officer
- From Meadow St. intersection on, 116 South will be closed so that operations from route 9 can be conducted.
- All traffic wanting to go to route 9, will be forced to take a right onto Meadow St. where it can then continue to Route 9.



- Commencement traffic will then turn South onto North Pleasant St. towards campus.
- Traffic will then take a left into lot 44 by Mark's Meadow School. And fill in lot 27 and 44.
- In case of an over flow, traffic will be directed down Governors Dr. to fill lots 68, 31, and 26

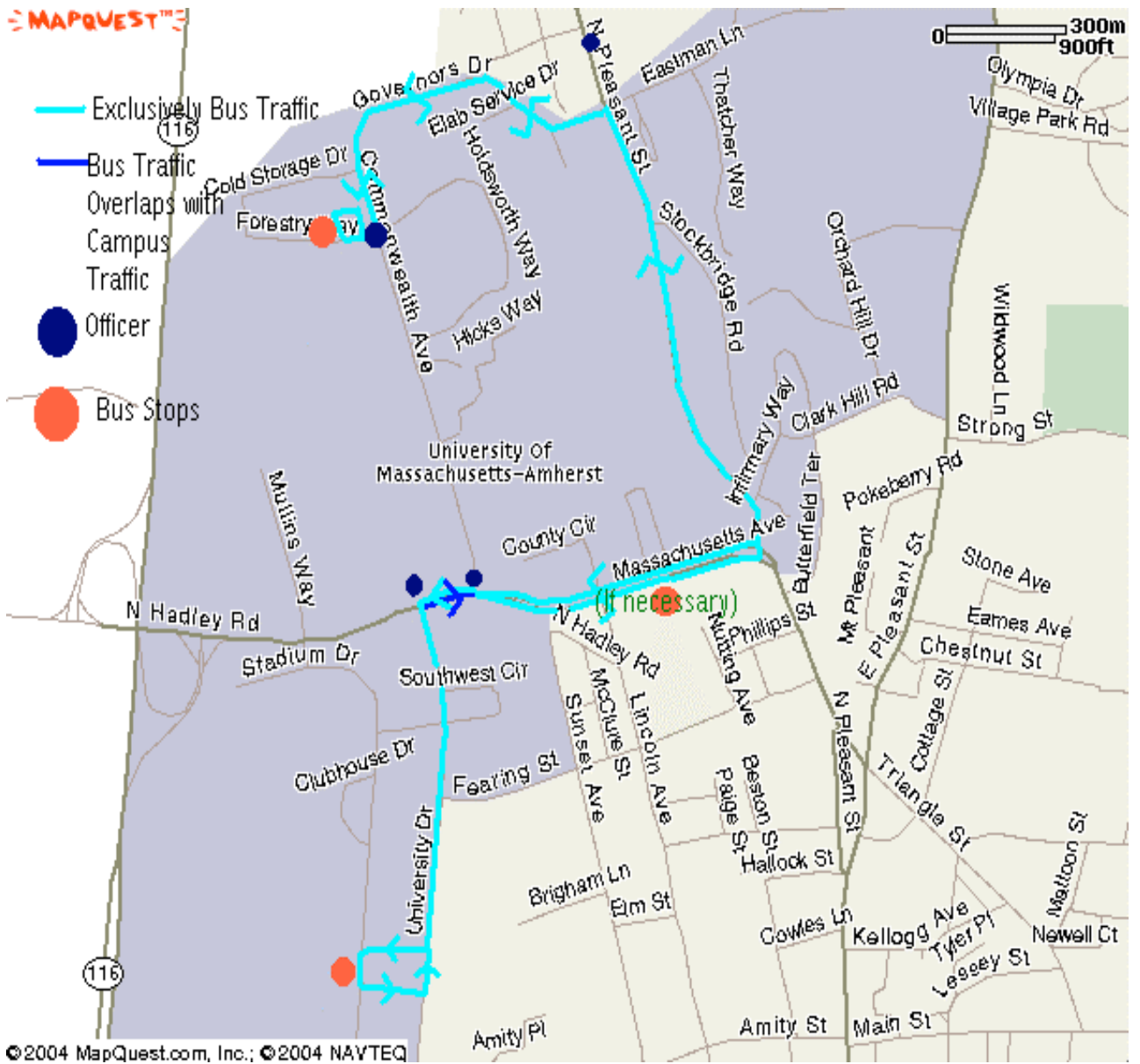


Bus Route Overview

- **From the Stadium there are two main Bus Routes.**
 - **Busses will run continuously.**
 - **Busses will be deemed full, at the discretion of the driver.**
 - **Buses should be assigned a specific route**
 - **Several buses should have “swing” status, capable of driving either route depending on demand communicated by drivers**
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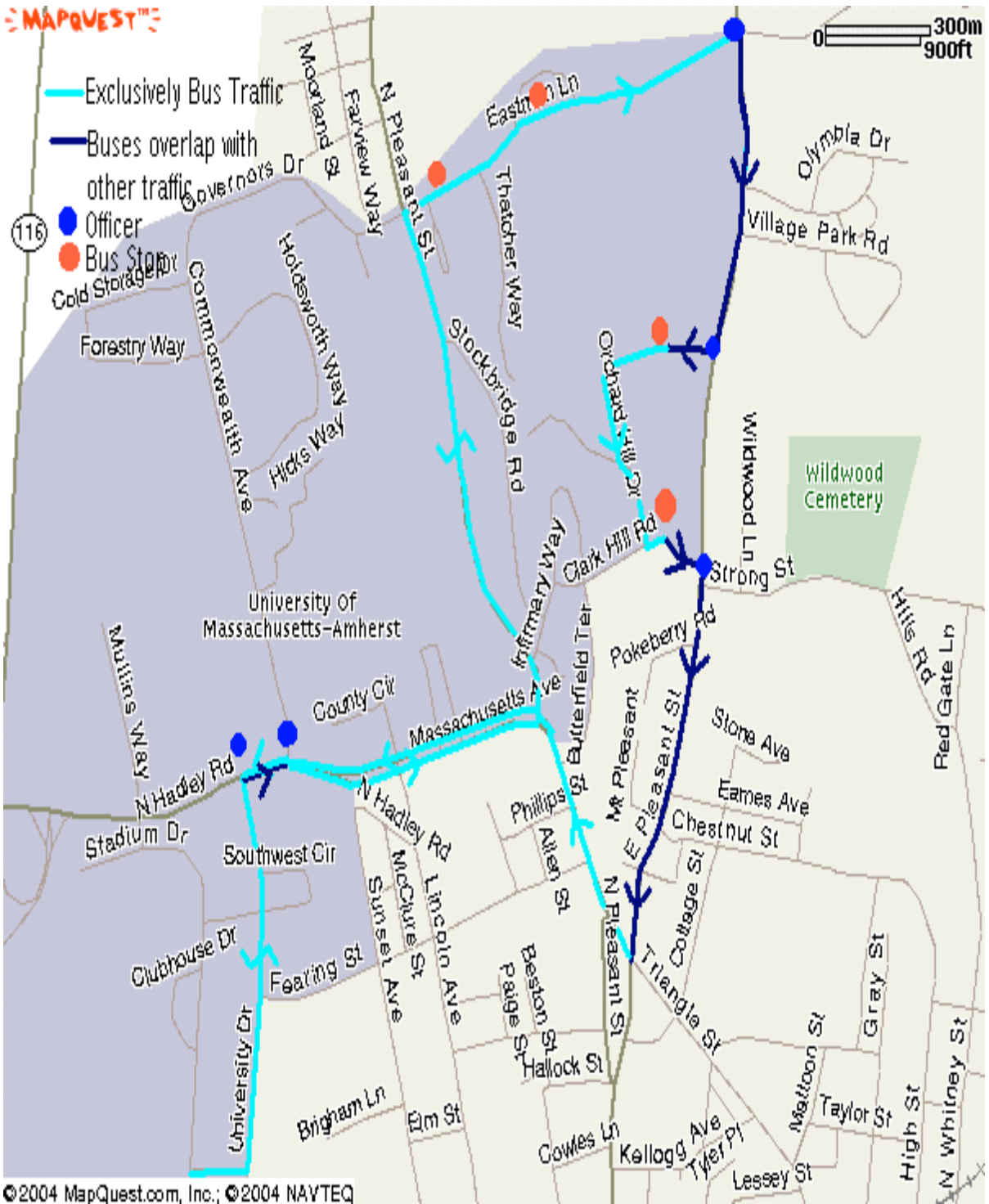
Bus Route 1

- **Busses will use turnaround at the Stadium to drop off passengers.**
- **They will head down University Dr., and take right onto Mass. Ave.**
- **They will then turn left onto North Pleasant St.**
- **Busses will then take left onto Governor's Dr. and merge onto Commonwealth Ave.**
- **Busses will then turn into the Parking Services parking lot, and have a designated turnaround.**
- **Patrons will be picked up at temporary bus stop in front of Parking Services.**
- **Busses will then continue back the opposite way they came.**



Bus Route 2

- **Busses will use turnaround at the Stadium to drop off passengers.**
- **They will head down University Dr., and take right onto Mass. Ave.**
- **They will then turn left onto North Pleasant St.**
- **Busses will take right on to Eastman Ln.**
- **Busses will make stops in front of Totman Gym, and Sylvan living area to pick up Patrons from lot 44.**
- **Busses will then take right onto East Pleasant St. until they reach Orchard Hill Dr. where they will take right.**
- **Busses will make stops in front of Greenough Dormitory. and at both ends of Lot 49. Busses will then turn South onto East Pleasant St**
- **Busses will then get back onto North Pleasant St. and return to the Stadium opposite the way they came.**



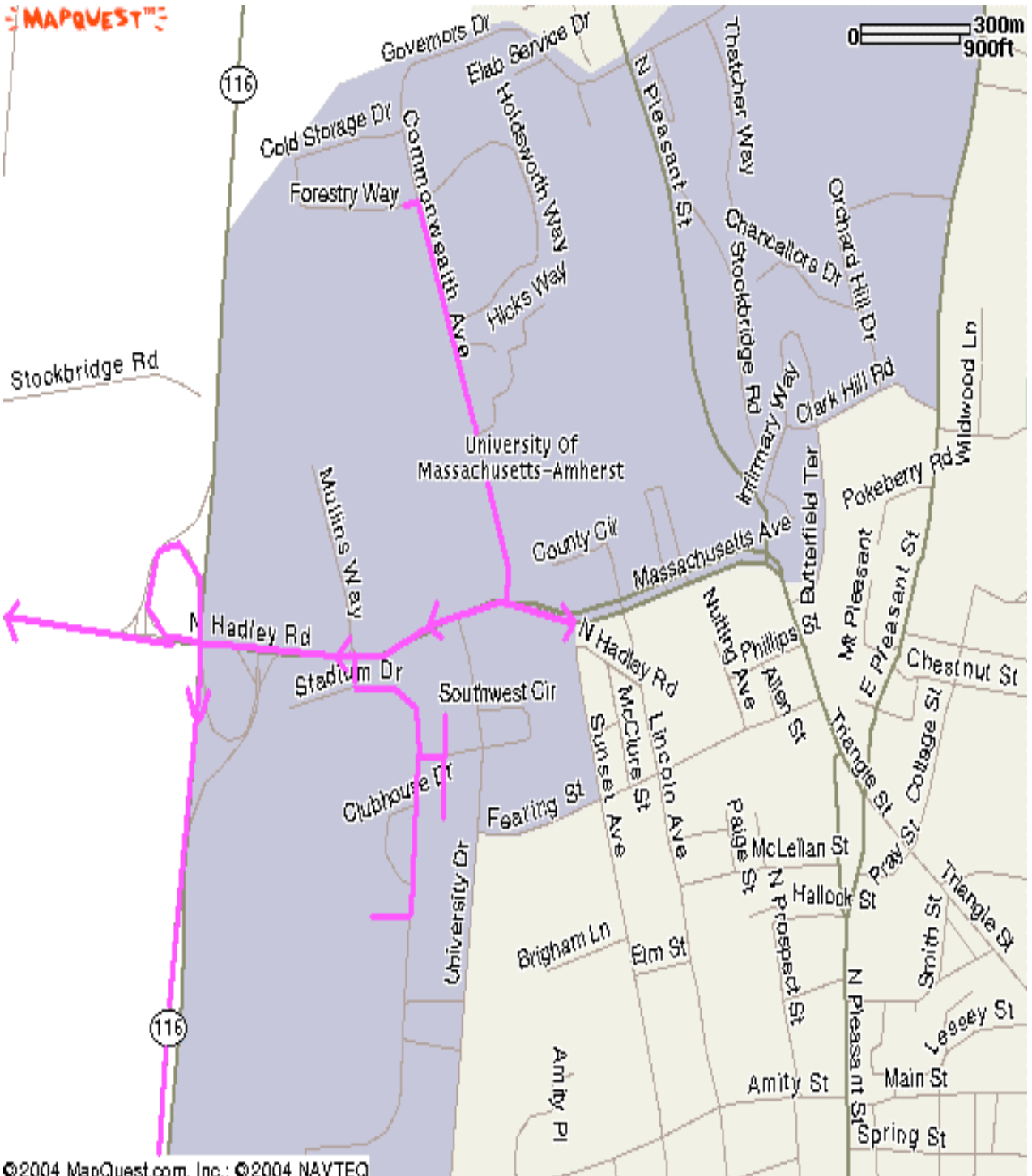
Special Considerations

- Disabled Services
 - Directed to the Parking Services lot where special vans will wait and travel along the bus routes

- Traffic that does make its way onto Mass Ave or N. Pleasant:
 - Directed to lots 32, 34, and 71
 - Combined Capacity: 775

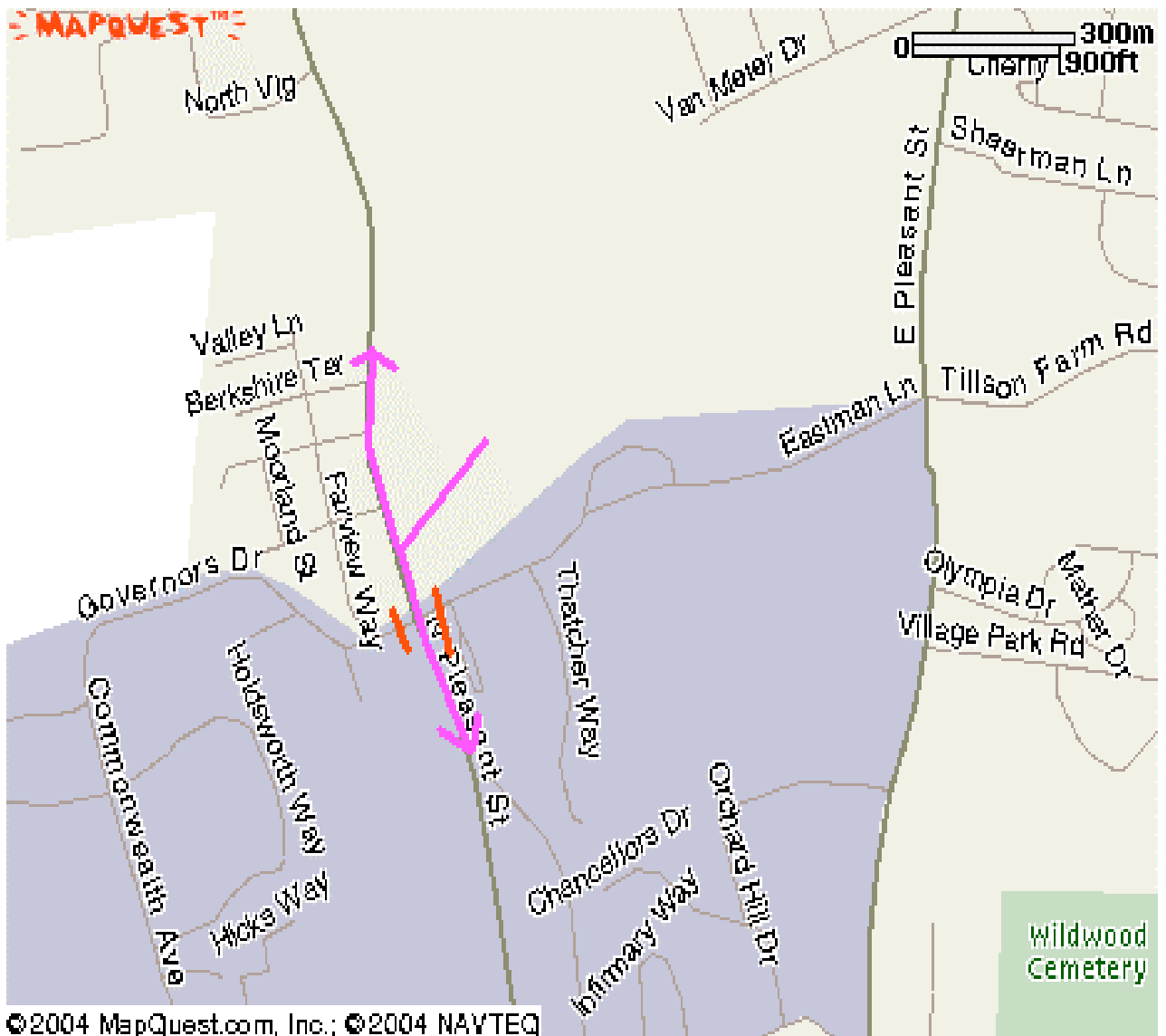
Exit Plan

- South and West
 - Directed South along Commonwealth Ave, onto Massachusetts Ave.
 - They may travel in either direction once reaching Massachusetts Ave.
 - Vehicles at the stadium lots should be directed onto N. Hadley Road to the West
 - Travel along N. Hadley Road should be one way to the West, one lane should turn onto 116 South, the other should be directed to N. Maple and then South
 - University Drive will remain closed to all, except buses
 - N. Pleasant St. will may be opened to all traffic



North

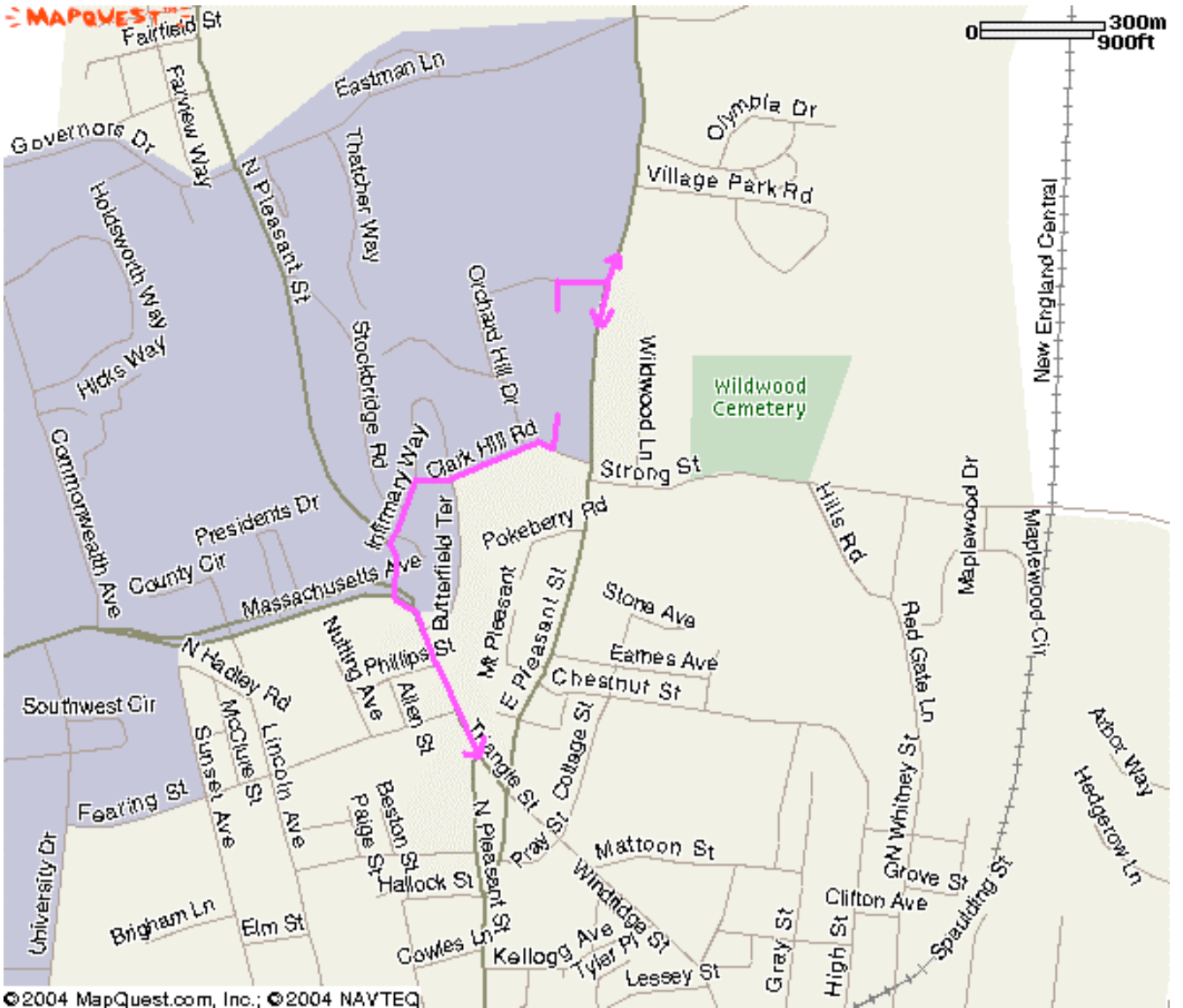
- Vehicles may travel North or South at their discretion
- Governor's Drive and Eastman Ln. should be closed to all traffic, except buses



Exit Plan

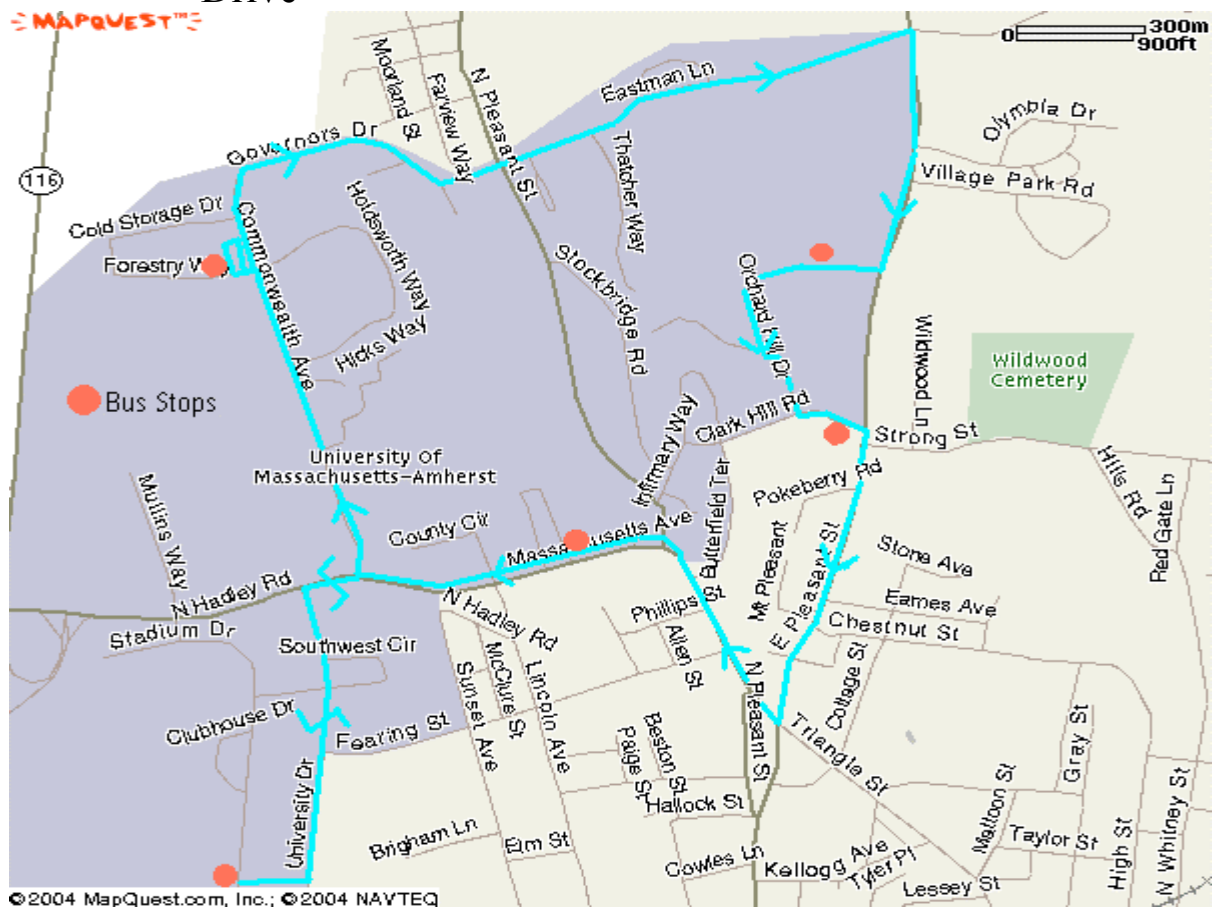
South and East

- Vehicles exiting the South side of lot 49 should be directed down Clark Hill Rd. onto Infirmary Way and onto North Pleasant St, where they may travel North or South at their discretion
- Vehicles exiting the North side of lot 49 should be allowed to travel along East Pleasant at their discretion
- Any vehicles parked in lots 32, 34, and 71 should be directed East on Massachusetts Ave.
- No traffic should be allowed to travel West on Massachusetts Ave.



Exit Plan Bus Route

- Buses travel North on University Drive from the Stadium
 - West on Massachusetts Ave
 - North on Commonwealth Ave
 - Stop at Parking Services
 - Continues travel along Governor's Drive to Eastman Lane
 - Stops at Totman and Sylvan
 - South along East Pleasant
 - Stops on both ends of the 49 lot
 - Continue travel South along East Pleasant St to North Pleasant St
 - North Pleasant to Massachusetts Ave to University Drive



Bus Route Alternate

- Allow traffic in lot 49 to travel South along East Pleasant
- Keep N. Pleasant Shut down
- Have buses leaving lot 49 travel North on E. Pleasant St. to Eastman lane and South along N. Pleasant to return to the stadium
- Vehicles in the North lots may now only travel North

