

The Challenges and (Early Successes) of a Town Initiated Access Management "Retrofit" Program on Two State Highways

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ABSTRACT

The Town of Penfield a suburban town adjacent to Rochester, New York, is experiencing a substantial growth in development and resulting traffic pressures along Routes 441 & 250, two arterial State highways that traverse the town. Prompted by these pressures, and coupled with an upcoming 1997 New York State DOT improvement project for these roadways, the Town, in cooperation with NYSDOT, developed and adopted an Access Management Overlay district that incorporates a Land Use and Access Management Plan (LUAMP) for Routes 441 and 250. The primary purpose of the LUAMP is to provide a comprehensive and coordinated management plan for access control to improve the capacity and safety along these roadways. The LUAMP equips the Town Planning Board with the basic framework or planning tool for accommodating future growth along these two corridors.

The Penfield LUAMP is largely a "retrofit" plan that includes numerous access management supportive elements. Without any formal access classification system in place in New York State, development of the plan represented one of the first formalized attempts at implementing a complete access management system that includes driveway consolidation and spacing, access roads, medians, consideration of future signal spacing, as well as the adoption of access management supportive language in the existing town land use ordinances.

The process and support for the plan were key elements that have resulted in two early successes. First, medians proposed as part of the access plan at the intersection of Routes 441 and 250 affected three convenience/gas stations and a fast food restaurant. Although initially unpopular to the merchants, the concept and need for medians was eventually acknowledged and accepted by all affected parties. Secondly, construction, in part, of a strategic link in a planned access road network has already begun, and is being funded by the developer with town incentives added.

Coordination of the town's plan with the NYSDOT improvement project was essential. The NYSDOT recognizes the potential cost savings, and operational and safety benefits associated with implementation of the LUAMP. In exchange, NYSDOT is now considering additional highway project betterments to Routes 441 and 250, that may accelerate and further the implementation of the LUAMP

I. INTRODUCTION

The Town of Penfield, a suburban town (pop. 32,000) adjacent to Rochester, New York, is experiencing a substantial growth in development and resulting traffic pressures along Routes 441 & 250, two arterial State highways that traverse the town. With growth, comes the inevitable challenges of balancing the needs for access versus mobility on these travel corridors.

The Route 441/250 corridors are a primary commercial center for the Town of Penfield. The commercial area stretches approximately a mile in each direction from the intersection of these two arterials, and contains approximately 450,000 s.f. of retail space and 40,000 s.f. of office uses. Overall, the potential build-out of the area currently yields a total 1.4 million square feet of retail and commercial uses.

In January 1994, a Route 441 corridor quality management team, representing a partnership of State, County, Town, Citizen, and Business officials charged with identifying methods to make Route 441 a safer and more efficient transportation corridor, focused their attention on the growth corridor surrounding the Route 441/250 intersection. The corridor task force team, in conjunction with the Penfield Town Board and Planning Board members recognized that the standard project-by-project reviews were inadequate, and that an overall plan that

treated land use and transportation as a system was needed for the area.

In early 1994, the Town officials reacted to a rush of development applications in the study area, by declaring an informal moratorium on development. Prompted by these pressures, and coupled with an upcoming New York State DOT improvement project for the Route 44 1/250 intersection, the Town initiated a Land Use and Access Management study. The Town and consultants jointly developed in cooperation with NYSDOT, a plan to address the potential development for the area and to coordinate local land use decisions and access management strategies in concert with the proposed intersection improvement project.

The intent of the Land Use and Access Management Plan (LUAMP) is to provide a comprehensive and coordinated management plan for development and access control within these two high growth corridors.

II. BACKGROUND

The project area centers around on the intersection of Routes 44 1 and 250, two minor arterial highways primarily serving morning commuter traffic, and conflicting retail and commuter afternoon traffic. Route 44 1 is a four lane east-west travel route that connects the major employment centers located in the City of Rochester with suburban residential communities located in Penfield and easterly into the fastest residential growth areas of Wayne County. Currently, Route 44 1 carries 25,900 vehicles per day on the study section.

Route 250 is primarily a two-lane north-south travel route that services a major suburban employment center located at the northern terminus; and a regional retail center located at the southern terminus. The roadway accommodates approximately 16,200 vehicles per day through the study area. The posted speed limit on Route 441 is 40 mph, and 45 mph on Route 250.

The competing demands to service both the through traffic component and the access needs of businesses located along these corridors presently creates significant turning conflicts and capacity conditions (Level of Service E) over several highway segments within the plan area. As growth continues, the absence of a well-defined policy on access will further exacerbate the overall travel condition.

III. GOALS

In 1989, the Town of Penfield chose a proactive stance in its transportation policy by completing a Town-wide Strategic Traffic Study. The recommendations presented in this study became the basis for the Towns' 1990 Master Plan highway goals and objectives. The Master Plan established the policy framework that supports the access management initiative. Development of the LUAMP is consistent with the goals and objectives set forth in the Town of Penfield's Master Plan.

The primary goal of the LUAMP is to preserve the regional and local flow of traffic in terms of capacity, safety, and travel speed, and to provide reasonable access to land development within the plan boundaries. The underlying intent is to address the access issues and restraints in the most cost effective manner, while achieving the most safety and capacity benefits from both the public and private investment.

Traditional methods of designing access generally lacked a comprehensive and coordinated approach to land use and transportation. The LUAMP strives to achieve a better balance and integration between the roadway design elements and the land use and site planning features embodied in both existing and future developments.

IV. STUDY PROCESS

A comprehensive survey performed initially as part of the study, revealed that the majority of town residents were strongly supportive of the Towns' initiative to better manage the land use demands with the available transportation resources. A number of public information meetings were held early in the process to update business and residential owners on the plan and to garner input and support for the access management concepts. Efforts were also made to review the progress of the plan with local business owners.

Several workshops with the Town Board and Planning Board were held to determine, reinforce, and adjust if necessary, the desired course of action, based upon various growth scenarios.

An initial step in the study process investigated lot conformance with minimum width and depth dimensions. Lot widths less than the recommended 245 ft. minimum driveway spacing, delineated locations with potentially the greatest need for cross access and shared access arrangements. Parcels with lot depth greater than 400 feet were considered locations offering the opportunity for development of a secondary access road network.

Existing adjoining land uses with a high degree of compatibility were categorized as potential candidates for unified parking and circulation between parcels.

“Micro-level” planning on a parcel-by-parcel basis and visioning procedures were performed to identify the actual development potential within the Route 44 1/250 corridors. The developable build-out potential for lands within the study area, as prescribed under the current zoning were mapped and quantified. Historical lot coverage trends were analyzed and then used to estimate the future build-out scenario and site-generated trips. Under the present zoning conditions, it was determined that an additional 1,000,000 s.f. of commercial and retail uses could occur within the plan boundaries.

Traffic simulation and analysis methods were used to assess future intersection operations and queue conditions. Future traffic conditions under the full build-out scenario were evaluated and intersection levels of service and queuing conditions identified. The equivalent of operational “contour” maps were developed to highlight the functional limits of the study intersections, and to identify areas of potential conflict between driveways and these functional areas.

As part of the study process, probable future signal locations were identified that maintained to the extent possible, a minimum 30% future bandwidth along each corridor.

V. PLAN ELEMENTS

Access Management Design Guidelines and Recommendations

No longer are access management techniques focused solely on an individual development application, with a limited range of access techniques applicable to the development site. Instead, management plans include an array of access management related What’s new in New York State, and already established in other states, is the degree to which access management principals are being applied. measures aimed at addressing access conditions on a sub-area, corridor, or larger transportation system base.

The Penfield LUAMP includes a package of strategies and techniques that provide for total system management and integration within the Routes 44 1 and 250 plan limits. The plan, as shown in part in Figure 1, involves the development of a plan tailored specifically to the needs and environmental conditions of the study corridors, including, but not limited to the following elements:

- driveway consolidation
- driveway spacing guidelines
- comer clearances
- shared driveway access, cross access and unified parking plans
- use of raised medians
- access road plans with new design standards
- driveway throat length standards
- probable location of future signals with bandwidth recommendations
- additional right-turn lane treatments

The plan focused on limiting the number and location of driveway curb-cuts along both roadways. Figures 2 and 3 show for Routes 44 1 and 250, the existing and future number of driveways conforming to the minimum 245’ driveway spacing recommended in the plan. While a greater driveway spacing distance is desirable, it was

recognized early in the plan process that a realistic, and workable separation distance was needed that was sensitive to the existing developments and compatible with the existing environmental setting.

Full implementation of the LUAMP results in a 3 7% reduction in total driveways along Route 44 1, and a 17% reduction in curb-cuts along Route 250. Under the LUAMP, the reduction in the number of non-conforming driveways with driveway spacing less than 245 ft. is even more significant along both roadways.

The plan calls for the creation of a integrated traffic circulation system that includes a system of access roads, cross access arrangements, unified site parking and circulation. Separate design, driveway spacing and setback requirements were developed for the access roads. The planned access road network provides greater integration and connectivity among developments, thus minimizing vehicular trips onto the arterials.

As part of the study, accident clusters were identified on Route 441 at access locations closest to the Route 441/250 intersection. In response, a raised median extending no less than 500 feet in either direction on Route 44 1 is proposed under the LUAMP plan.

Land Use Recommendations

The plan also recommends the adoption of an Overlay District that establishes land use language and ordinances that support access management and promotes transit, bicycle, and pedestrian friendly features.

An overlay zone is a growing method used for managing access along commercial corridors. The technique is used to overlay access management supportive language onto an existing zoning district, while retaining the underlying zoning and its associated requirements. These include transit friendly land use planning that encourages a mix, and proximity of uses necessary to facilitate greater transit and walking or bicycling. Providing for transit, pedestrian, and bicycle transportation is essential to a well balanced transportation system.

Consistent with the 1990 Master Plan goals and objectives, the LUAMP encourages strategies aimed at shifting demand away from single occupant vehicle travel, and helping offset the need for new highway lane miles. The establishment of a safe and efficient pedestrian walkway system is a key component of the LUAMP. The inclusion of pedestrian and bikeway improvements, as part of site development plans, are required to make walking and bicycling more pleasant, and convenient in the study area.

As part of the LUAMP, transit friendly community design concepts, a permanent Park-and-Ride station, and a second transit shelter are recommended for the study area.

The plan also outlines specific land use recommendations related to:

- "Conditional Uses" only in the business zones within the Overlay District
- Use Limitations for Comer Parcels
- Front Setback Reductions (reduced from 80' to 50')
- Density/Intensity Incentives as Prescribed in the Town's Incentive Zoning Law
- Buffers(Allow greater flexibility to promote plan elements)
- Coverage (building, lot coverage)
- Special Dimensional Requirements
- General Signage and Directional Signing Modifications
- Alternative Parking Requirements
- Landscaping

VI. IMPLEMENTATION STRATEGIES

The project team investigated several financial and administrative measures necessary to implement the plan recommendations. These include the need to obtain developer agreements for temporary access to the state

highway system pending the creation of internal access roadways or shared access arrangements. The plan includes recommendations for use of Incentive Zoning laws to offer benefits to the developers for compliance to the plan.

The funding of the plan and recommended betterments to the NYSDOT plan included the Town support in obtaining additional right-of-way for the improvements, and developing an Overlay District with a Transportation Improvement Fee component. The fees are based upon peak hour trip generation for the proposed developments, and are paid to the Town to offset costs for the study, SEQR compliance, and the cost for betterments beyond those proposed by the NYSDOT. These funds could be partially waived for developers that instead, complete improvements to the state highway for access considerations and plan advancement.

VII. KEY ATTRIBUTES FOR PLAN ACTUALIZATION

Many factors contributed to the overall advancement of plan, but those most important and consequential to its progress include the following:

Vision - An essential link in the plan process is a vision of the desired future. *Vision is essential to achieving consistency between land use and transportation.* Although visionary plans are often impeded by the politics of land development, without vision, there is no plan.¹

A clear long term view of the desired development pattern for the future was a crucial element exhibited by both the Town Council and Planning Board early in the process. The town recognized the need for a policy driven plan versus reactive decision-making that lacked direction and cohesion.

Town officials had the foresight and vision to establish in their 1990 Master Plan, a policy framework that supports more detailed access management initiatives.

Local support - Local governments are charged with managing land use - land use pattern, intensity of use, subdivision and zoning regulations, site plan approval, and access roads. *Local support is one of the most crucial ingredients for the formulation and success of a plan.*

Officials and staff from the Town of Penfield recognize that land use decisions cannot be made apart from transportation decisions. Transportation and land use problems are interdependent and require coordinated solutions, such as the LUAMP. Corridor preservation requires involvement at the local level where land use decision are made.² The Town of Penfield translated the public goals and objectives as stated in its Master Plan, into a coordinated arterial management program for the Routes 44 1 and 250 study corridors.

Education - *Plan acceptance and approval depends largely on the education of all involved parties.*

Comprehensive access management represents a new approach to mobility protection that oftentimes includes new ideas and concepts, unfamiliar to residents and business owners. Generally, property owners affected by the new LUAMP concepts, were initially resistive to change. Throughout the study process, the project team emphasized that the State, Town and land owners all share a common goal for improved mobility and safety. The benefits gained under the LUAMP serve the community as well as the affected landowners, in terms of improved safety, operations, planning and corridor preservation.

A review of the three year accident history in the Routes 441/250 study area revealed that 43% of the total accidents occurred at uncontrolled access locations. Accident clusters were identified at access drives located immediately adjacent to the Route 44 1/250 intersection.

The property owners associated with these driveways were apprised of these conditions, and through subsequent informational meetings, the owners realized the need for improved safety for their customers, and expressed a willingness to support the proposed safety enhancements proposed in the plan.

¹ Center for Urban Transportation Research, "Executive Summary - State Transportation Policy Initiative", University of South Florida, June, 1995.

². Ibid.

Both motorists and merchants are the recipients of the potential operational benefits achieved through the LUAMP. Travel times are reduced for commuters as well as shoppers, thus preserving market areas for existing retail centers. Educating merchants to the intrinsic benefits of sharing the common goal of increased mobility, proved highly effective in promoting the overall plan.

The LUAMP is designed to achieve better long range planning for highway access, and to simplify future planning efforts. The LUAMP aims to streamline the process for new development application review by defining the conditions under which access permits will be issued. The LUAMP equips the Town Planning Board with the basic framework or planning tool for accommodating future growth in a more efficient and effective manner along these two study arterials.

The LUAMP stretches ~~both taxpayers dollars and the useful life of the facility.~~ *d o r s s u c h a s* Route 44 1 and 250 must be protected and improved to assure the continued mobility and economic stability of the area. How realistic is the traditional 20 year design life when in most cases, major highway improvement time lines are being extended to 30, or 40 years before another major reinvestment in highway is made, given current capital funding trends?

Consistent and Equitable - *Consistency in application and use of medians, cross access agreements, corner clearances and other access management related techniques is imperative.* Challenges and potential litigation regarding plan elements precipitate without consistent and equitable design and administration of the plan. A staff training process is necessary for uniformity in decision, prior to any plan implementation. While the concepts of access management are not new to traffic engineers, most local municipalities seldom have trained technical staff to assist in the implementation process. Oftentimes the application of the access management principles requires interpretation and engineering judgement related to site specific conditions and limitations. Sufficient efforts must be made to educate the practitioners responsible for plan implementation.

Coordination with Planned Highway Improvements - *One of the most effective means of instituting access management is with new roads, widenings, and intersection upgrades.* Development of the LUAMP, in advance of the NYSDOT improvement project offered the town an opportunity for greater input in the design process.

The earlier access management strategies and techniques are considered in the planning phase — the more effective the program will be. Access management should start at the local level and compliment future roadway improvement projects. Public support must be obtained well in advance of the plan.

VIII. EARLY SUCCESS ELEMENTS OF THE LAND USE AND ACCESS MANAGEMENT PLAN

Acceptance and approval of Medians - Raised medians proposed as part of the access plan at the Routes 44 1 and 250 intersection affected three convenience/gas stations and a fast food restaurant. Although initially unpopular to the merchants, the concept and need for the medians was eventually accepted by all affected parties, after highlighting the existing accident frequency and operational deficiencies at these locations.

Development of an Access Road Network - Construction, in part, of a strategic link in a planned access road network has begun and is being funded privately, as development continues. The Town, in an effort to advance the access road plan and the LUAMP objectives, modified the existing buffer requirements between the access road and near-by residential units. Further implementation of the planned access road network will progress as development occurs.

Adoption of Land Use and Access Management Supportive Overlay District - After minor plan refinement, the Town of Penfield formally adopted the establishment of the Overlay District within the Routes 44 1 and 250 area. The overlay district regulations superimpose on the primary zoning districts and provide additional standards and design criteria to achieve the development objectives of the Routes 441 and 250 LUAMP.

IX. SUMMARY

Land use decisions are predominantly local determinations, while access to arterial corridors such as Route 44 1 and 250 is primarily a State function. In the past, the two areas evolved mostly independent of one another. However, what is clear, as exhibited in the Town of Penfield's Land Use and Access Management Plan, is that much can be done by towns, and local jurisdictions to improve the mobility, as well as the desired development outcomes along major corridors.

The Town of Penfield, through development of a Land Use and Access Management Plan, established a plan that supports corridor preservation and access management, as envisioned in the Town's Master Plan. The plan, initiated and developed by the Town, in partnership with the State Department of Transportation, identified an appropriate access system to accommodate future growth along two State arterial corridors within the town.

Local communities such as Penfield are recognizing that they can and must take more proactive roles in the delivery of transportation system improvements and in the entire transportation planning process. A truly integrated and coordinated system of land use and access, demands greater participation and support by local communities to enhance the overall efficiencies of the transportation system.

A strategic approach to transportation planning recognizes that capital improvements are not enough. State Departments of Transportation, County's and local municipalities must also look for better ways to manage the existing transportation **system**.³ Effective corridor preservation requires involvement at all levels, particularly the local community level where land development decisions are made.

Lastly, access management requires the cooperation, creativity and coexistence among all participants to insure that our transportation system meets the needs of the users, our customers.

³Ibid.