Regional vs Local Accessibility and the McGrath Highway: Forming Consensus and Engaging Constituents to Reimagine Somerville’s Aging Infrastructure

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Mayor Curtatone,

As the Mayor of the City of Somerville, it is your role and that of your advisors to serve the primary interests of the residents and business owners of Somerville. Simultaneously, your decisions and actions should seek to improve long-term access and amenities for residents of Somerville. Dealing with the McGrath Highway represents an important opportunity to improve the quality of life for surrounding residents and business owners, and could prove to be a significant component of your legacy as Mayor.

McGrath is a major highway, officially designated as “other freeway,” that represents the portion of Massachusetts Route 28 through the city of Somerville. McGrath Hwy is the continuation of Monsignor O’Brien Hwy in Cambridge to the southeast and is known as the Fellsway north of the junction with Mystic Ave and Interstate 93. The highway has a long and complex history that hints to the changing nature of transportation throughout Somerville and the greater Boston metropolitan region. Originally constructed in 1928 to create a speedier connection for Route 28 between the Charles and Mystic Rivers, McGrath was elevated in the 1950s to further facilitate increased travel speed. Today, the infrastructure of the two raised portions (the McCarthy Overpass, running from Somerville Avenue to Medford St, and the Squires Bridge, running above the MBTA Fitchburg line near Twin City Plaza) are decaying and decrepit (Figures 1 & 2). In addition to its poor condition, the McGrath Highway is a source of significant noise and air pollution and largely cuts off East Somerville and the Inner Belt areas from Western portions of Somerville and Cambridge, much as the raised Central Artery did for the North End and harbor-front portions of Boston prior to the Big Dig (Figure 3).
Figure 1: A 2006 photo of the McGrath Hwy southbound viaduct spanning Washington St, highlighting the decaying conditions of the aging infrastructure. (Source: Alexander Svirsky, www.massroads.com)

Figure 2: A 2006 photo showing the fractured concrete in supporting piers beneath the McGrath Viaduct over Washington St. (Source: Alexander Svirsky, www.massroads.com)
SEGMENT 1: Mystic River to Mystic Avenue
- Accommodates local and regional traffic, and Assembly Square development traffic.
- Improvements are needed to waterfront access for both pedestrians and bicyclists.
- Pedestrian access to Assembly Square needs to be provided for both Mystic View and Broadway area residents.

SEGMENT 2: Mystic Avenue to Medford Street
- This segment is the only one with largely residential character. Northwest of Route 28 are residences which front on Edmunds and Dana streets, which are parallel to Route 28.
- Pedestrian and bicyclist access along and across this section of Route 28 needs to be enhanced.
- Improved access to Foss Park for area residents is important.

SEGMENT 3: Medford Street to Museum Way
- This segment has the potential to be significantly changed by infrastructure improvements and future redevelopment.
- Possibility of removing Route 28 viaduct sections should be evaluated.
- Second major access to area is likely needed.

Figure 3: Three primary corridor segments of McGrath Hwy and key characteristics describing each of the three segments. The third segment is bounded by heavily industrial uses to the East, while the second segment is primarily residential in character. McGrath’s presence starkly divides portions of East Somerville and the Inner Belt from the residential and commercial uses of West Somerville and East Cambridge. (Source: “Toward a Route 28 Corridor Transportation Plan: An Emerging Vision,” Boston Region MPO.)
Since McGrath’s original construction and elevation in the mid-20th century, the road network of Somerville and the dominant mode of travelers have transformed considerably. Throughout much of the early 20th century, Somerville was well connected with streetcars and was once considered a “streetcar suburb” of Boston. Along with the increasing prevalence of the automobile came the removal of the streetcars, which were mostly replaced by buses or trackless trolleys by the 1940s. Today, automobiles dominate the Somerville streetscape and mode share, making it a difficult place for pedestrians and transit riders to work and live. Nonetheless, the high density of the city contributes to the highest bus ridership in the Boston metropolitan area, with nearly 40,000 passengers each day on MBTA bus routes through Somerville.²

Assessing the viability of removing the elevated portions of McGrath and replacing the highway with an urban boulevard requires a thorough and multifaceted analysis. Though the idea seems immediately positive to champions of livable spaces, pedestrian-friendly communities, and transit riders, the existing McGrath Hwy plays an important role in the Boston metropolitan area regional transportation network, Somerville’s local travel patterns, and the surrounding land use of neighboring plots. The interests and concerns of several relevant actors, constituencies, and institutions should be considered before proceeding with any initiative to substantially alter the existing conditions. The residents and business owners of Somerville are of paramount importance, as they are the population most directly affected by the short-term closure of McGrath and any long-term modifications to the streetscape. In the long term, both groups have much to gain from the conversion of McGrath into an urban boulevard. Residents would benefit from a more human-scale and livable boulevard which could provide new public spaces, facilitated pedestrian access, and new amenities for the abutting neighborhoods. Furthermore, the
reduction of regional traffic to and from Boston would hopefully contribute to reduced air and noise pollution, thus improving the quality of life for residents of neighboring communities.

Business owners also have much at stake and could strongly benefit from the demolition of the elevated portions of McGrath Highway. While in the short-term, construction and the accompanying reduced traffic volumes may reduce the potential customer base, the elevated portions of the highway and the fast-paced regional traffic are quite detrimental to local businesses, which would benefit from improved visibility to drivers on an urban boulevard at grade. Furthermore, slower speed traffic could contribute to an increased number of unplanned and serendipitous stops at roadside businesses by local residents and Boston-bound commuters alike. An increased pedestrian presence would also create a new market for commercial and retail opportunities targeted towards locals such as small restaurants and cafes, or artistic business nodes like theaters and galleries. Small walk-in stores and restaurants in particular have much to gain from improved pedestrian accessibility of this important Somerville corridor.

Automobile drivers who use McGrath as a local access route within Somerville/East Cambridge and as a connector for commuting to Boston are unlikely to respond positively to any proposal that would decrease the speed or capacity of the highway. Furthermore, the transformation of the highway into an urban boulevard would almost certainly put the road out of commission for a longer time than reconstruction, which could be done in isolated stages to minimize impact to overall throughput and traffic flow. However, it is worth noting that the current level of service and throughput of McGrath Hwy leaves much to be desired. Data collected from a morning rush hour in June 2010 indicate that the average speed on McGrath for
the 6.5 mile stretch between Broadway St and Highland Ave, was just under 19 mph and over
50% of the trip spent was spent stopped.\textsuperscript{3} Though speeds on the elevated segments approached
local maxima of 35 – 50 mph, the high levels of peak hour congestion and low average speed on
the highway significantly reduce the functionality of McGrath as a collector/distributor for
regional traffic.

Moreover, much of the traffic data collected over the past several years indicate the vast
majority of traffic on McGrath is between a localized set of origin and destination towns that are
underserved by I-93, rather than as a connection to Boston. For example, a December 2008
report from the Boston MPO found that less than 11% of the southbound vehicles observed on
Route 28 at the pedestrian bridge west of Broadway St were also observed at the Museum of
Science towards Boston (\textbf{Figure 4}).\textsuperscript{4} Traffic counts conducted by MIT in November 2010 during
the closure of the Craigie Bridge indicate similarly that Route 28 is used more for local
connections to and from Somerville and Cambridge and neighboring communities of Medford
and Everett, rather than as an alternative to I-93 for trips to and from Boston.\textsuperscript{5} Thus while
McGrath plays a significant role in both the local and regional transportation networks, these
statistics from multiple sources suggest that the highway is primarily dominated by local traffic.
Figure 4: Vehicle origin based on RMV license plate registration for traffic observed on McGrath from the pedestrian bridge west of Broadway St. These measurements indicate that much of the traffic on McGrath is local and is composed of residents of Somerville, Cambridge, Medford, Malden, and Everett. (Source: “Toward a Route 28 Corridor Transportation Plan: An Emerging Vision,” Boston Region MPO.)
MassDOT is also a critical decision maker in the proposal, planning, and implementation processes for the reconstruction or redevelopment of McGrath Highway. As the highway was recently transferred to the jurisdiction of the MassDOT Highway Division from the Department of Conservation and Recreation (DCR), it will be not only prudent but also vital to form positive alliances with the organization and thoroughly engage its leadership in the decision making process. The MBTA and transit riders also represent an important organizational interest and constituency, respectively, and both can provide leverage and support for the de-elevation proposal. Transit riders and pedestrians are largely overlapping groups so any improved pedestrian and bicycle connections to bus stops and the new Green Line extension stations that could be integrated into the proposed urban boulevard will be mutually beneficial. Meanwhile, the MBTA has a significant stake in the reconstruction efforts, as the diversion of traffic from McGrath – even temporarily – could result in increased transit ridership (as has been the case with the recent Bay Bridge closings in the San Francisco Bay Area).

The establishment of clear and structured communication mechanisms is crucial to the success of both the proposal and implementation stages of the new urban boulevard. Of particular importance is the establishment of opportunities for both casual and formal two-way communication and input from the various constituencies. For example, while community meetings and town halls that solicit input from stakeholders are relevant and well intentioned, their audience is often limited to the most vocal and politically informed of the affected population. Wider audiences can be reached on an informal level through digital mechanisms such as blogs or websites that provide information about major milestones in the proposal process and continually solicit input from the community and stakeholders. Most importantly,
residents and businesses that will be directly affected (and potentially even displaced by the
construction and re-conceptualization of the McGrath streetscape) must have their concerns and
interests taken seriously. Failing to engage with and provide viable alternatives for these critical
stakeholders could result at best in disgruntled and resentful constituents and at worst in a stalled
project tied up in legal battles that could spell death for the project and leave a stain on your
mayoral legacy.

Removing the elevated portions of McGrath and converting the highway into an urban
boulevard or parkway has a number of positive implications for the city of Somerville and its
residents. Firstly, the de-elevation could provide a unique opportunity for connecting east and
west Somerville and creating new economic opportunities for East Somerville and the Inner Belt
industrial areas. Since the elevated portions of Squires Bridge and the McCarthy Overpass will
require substantial reconstruction in the next decade, this is a rare opportunity to propose a
complete overhaul of the existing conditions. Proper timing is critical for success, as it will be
difficult to promote a complete redesign of the highway if repairing and rebuilding of the raised
overpasses is funded and initiated. Currently, the reconstruction of the Gilman St Bridge is slated
for Summer 2012 and has been allocated $8.8 million in the Boston Metropolitan Planning
Organization’s (MPO) 2010-2014 Transportation Improvement Program and Air Quality
Conformity Determination report. While the repair of this bridge would not necessarily ruin
future plans for the conversion of McGrath to an urban boulevard – because a raised structure
over the MBTA Lowell Line would be required in any case – it will take increased political and
financial capital to later divert the holistic course of action for McGrath from reconstruction to
re-conceptualization.
Among the most critical opportunities in terms of timing and logistics is coordination with the MBTA and the opening of the new Green Line Extension stations in Somerville. Currently the Green Line station at Union Square is scheduled for completion by 2015, so there are a number of benefits to be capitalized upon if the McGrath redesign is similarly timed. For example, if portions of McGrath are closed for major redevelopment in coordination with the opening of new Green Line stations, this could provide a significant boost to ridership at the new stations. This boost would not only help to justify Somerville’s efforts and expenditure to develop the Green Line Extension in the public eye, but would also contribute to critically timed success for the MBTA, who will be very embarrassed indeed if their new stations are poorly utilized in the opening months. Closing McGrath in conjunction with an improved Green Line connection also provides mitigation advantages for reducing the impacts on commuters during the reconstruction process. If a viable transit-based commuting alternative exists in the form of the new Green Line stations, the closure of large portions of McGrath for redevelopment becomes much more politically and logistically feasible. Bus rapid transit service provided by the Urban Ring can also contribute to mitigation measures, particularly for local trips. A related example is the significant increase in frequency and coverage of bus and transit connections that London implemented prior to its establishment of congestion pricing. In the case of Somerville, major routes such as Interstate 93 can provide highway linkages for those who must drive while shorter-distance commuters and locals may be incentivized to turn to transit as a viable alternative for their transportation needs.

The introduction of an at-grade boulevard with slower traffic also provides an opportunity for spurring new land uses and economic growth for the Inner Belt industrial areas. A careful balancing act must be played between improving land value and slowing the initiation
of a gentrification process, which could bring increasing prices of rents, land, and services that could force out many of the existing working class business and residents. Any new zoning designations should be applied to the region in a tiered fashion such that commercial and retail opportunities can quickly spring up around the boulevard while the older industrial businesses can continue to operate or relocate if they choose (Figure 5). If the land prices appreciate significantly, some of these industrial businesses may eventually choose to sell the land for a profit and relocate to cheaper areas.

![Figure 5: Zoning map for Somerville and surrounding cities as of 2007. McGrath is abutted on the East by a large industrial area known as the Inner Belt and small blocks of commercial areas to the South and West. Multi-family residential zoning is interspersed throughout the McGrath corridor. (Source: “Toward a Route 28 Corridor Transportation Plan: An Emerging Vision,” Boston Region MPO.](image)

The potential solutions available for the re-conceptualization of McGrath as an urban boulevard are varied and complex, so construction should not be rushed into without careful review of several proposals and accompanying studies to assess their viability and efficacy.
Perhaps even more distinctive solutions than a basic urban boulevard can be considered. For example, the introduction of significant greenery and landscaping could provide diverse functionality in improving the character of the highway. From an environmental perspective, trees and greenery would help mitigate noise and air pollution, particularly if placed in the median of the boulevard. From a traffic management and design viewpoint, the green median could create a new public space for pedestrians (much like the Commonwealth Ave Mall in Boston) while serving as an effective barrier between opposing directions of traffic and contributing to traffic calming, making many portions of the corridor much more accommodating and pedestrian-friendly. Even more radical solutions could be assessed, such as the conversion of structurally viable portions of the elevated freeway into a raised pedestrian aerial greenway, like the recently opened High Line in Manhattan that runs along an elevated section of the former West Side Rail Line (Figure 6). While these types of interventions would be quite costly and perhaps eventually deemed unrealistic, considering a broad range of options during the planning and ideation stages will spur creativity and improve the final built form.

Similarly, the path towards implementation must be embarked upon with prudence and caution. In the short-term, blocking or postponing the reconstruction of the Gilman St Bridge could be a sensible political move to ensure that the door is left open for more creative solutions for re-conceptualization of McGrath as a whole. However, MassDOT has designated many of the bridges and elevated structures on McGrath as structurally deficient, so stalling for too long while the ideas and capital (both financial and political) are gathered could also be detrimental for implementing a broader urban vision. The Request for Response (RFR) issued by MassDOT in July 2010 is an excellent start towards gathering designs and proposals for the de-elevation.
The RFR will allow for the creation and proliferation of designs at an early stage to create a pool of proposals from which ideas can be drawn and merged to form a variety of solutions. These proposals can be tied in with the community engagement processes discussed earlier to distill the best of ideas while the political and legal groundwork such as the EIR and more extensive traffic counts and analysis are conducted.

Figure 6: The High Line in Manhattan's Chelsea neighborhood. The High Line is a 1.5-mile raised pedestrian greenway that was built on the decommissioned West Side Rail Line and opened in 2009 for public use. (Source: www.thehighline.org)

The implementation process will also involve provisioning for significant land use changes. Applying commercial zoning and creating opportunities for mixed-use developments around the boulevard to help attract businesses and a potential customer base can be done through the designation of interim planning overlay districts (which can provide temporary...
zoning regulations for up to two years) in the short-term and traditional zoning or planned unit developments in the long-term.

The analysis of alternatives to the urban boulevard must be realistically considered as well. Any efforts to re-conceptualize McGrath as an at-grade boulevard may be trumped by a pressing urgency to repair the decaying infrastructure. A critically important question to address is where the traffic will go if McGrath is closed for extended periods of time. The recent closure of the Craigie Bridge gave some hints about the nature of traffic patterns on McGrath, but more detailed traffic counts and field analysis is necessarily to paint a more accurate picture of existing conditions on the highway. The fact that much of the traffic appears to be local initially seems problematic, because closing the McGrath Highway during the construction process would thus reduce access for many Somerville residents and local commuters. However, perhaps these statistics and counts can be spun to MassDOT and the Boston MPO in a compelling way. If a large and vocal portion of Somerville residents is in favor of the de-elevation and is willing to sacrifice connectivity in the short term for a dramatically improved streetscape in the future, then the de-elevation becomes more viable since regional traffic is not affected as significantly. In any case, Interstate 93 appears to provide the primary connection for commuters to Boston from the northern metropolitan area. However, more detailed traffic counts and modeling studies that give planners and decision-makers hints to how circulation and access will be affected by the closure of McGrath are necessary before any course of action can be embarked upon.

As with any project of this scale, forming alliances with the relevant decision makers and converting opponents will be essential to successfully implement improvements. MassDOT is perhaps the strongest and most logical ally since they have recently taken over jurisdiction of
McGrath from the DCR. The issuance of the RFR indicates that MassDOT is, at the very least, receptive to the idea of de-elevating McGrath and implementing a boulevard-style design. Since MassDOT will probably be responsible for maintenance and upkeep of McGrath regardless of its future fate, cost studies analyzing the (likely higher) price of maintaining bridges and elevated segments as compared to an at-grade boulevard can be used as a tool to further entice MassDOT to support the proposal. Intuitively, an at-grade boulevard is easier and cheaper to maintain than a complex elevated highway system with bridges and viaducts, but quantitative data on this subject should be researched and provided to MassDOT to form the basis for a more compelling argument. Similarly, the Boston Region MPO will be an important institution to align with, as their TIP reports play a strong role in determining the allocation of budget for any modifications. It is also worth noting that postponing the reconstruction of the Gilman St bridge will contradict the recommendation issued by the MPO’s latest TIP for federal fiscal years 2010-2013, so engagement with their senior leadership will be required to proceed with re-conceptualization of the full stretch of McGrath.

A number of other groups can also be tapped to form strategic alliances that could provide the vision and voice necessary to implement successful changes. For example, gaining the support of construction unions and contractors who will benefit from the large government financing contracts and hired manpower that will be required to tear down elevated sections and construct an urban boulevard will be crucial for selling the proposal to legislators. Along similar lines, some of the existing industrial businesses in Somerville may be able to provide materials and supplies for parts of the redevelopment, so they represent an important constituency to engage with since they are also direct stakeholders. As mentioned earlier, the MBTA represents a
significant ally because they will not want to face the embarrassment or revenue loss associated with empty station along the new Green Line Extension. Thus if the closure of McGrath can be timed with the 2015 opening of some of the new Green Line stations, this could lead to a surge in transit ridership which would serve a triple boon of increasing MBTA ridership and revenue, justifying Somerville’s campaign for the Green Line Extension, and providing mitigation measures for reduction of impacts during reconstruction (Figure 7).

Figure 7: Existing and proposed MBTA transit network. The placement of new Green Line stations at Union Square, Brickbottom, Gilman Square and a new Orange line station at Assembly Square could contribute to mitigation measures for commuters affected by the McGrath closures along Route 28. (Source: Green Line Extension Project FEIR June 2010)
Existing and future local business owners also have much to gain from the de-elevation of McGrath Highway. From a local economic perspective, the elevated portions of McGrath are quite detrimental to businesses, as they allow commuters to speed by without paying any attention to neighboring businesses. With more people driving at surface level on an urban boulevard, there are a vast number of opportunities for new businesses (even auto-oriented ones) with improved visibility and access from an at-grade route. The de-elevation combined with slower traffic could strongly benefit some of the larger chain stores such as Target and Stop & Shop, as smaller vertical separation could encourage more drivers to make brief – and perhaps unplanned – stops by simply turning at an intersection rather than taking a ramp. Somerville residents who are tired of the unsightly and deteriorating conditions of McGrath, particularly transit riders and pedestrians, can also form a strong and vocal group in support of the teardown. It is important to be mindful of the fact that many individuals and organizations tend to focus on the short term and will question how the proposal will affect them tomorrow rather than ten years in the future. Residents in the surrounding area will have to deal with construction noise and pollution in the short-term but can perhaps be swayed with the reminder of long-term benefits in terms of land value, air quality, public space, and urban amenities.

Perhaps the most formidable and outspoken opposition will come from private automobile drivers who will be inconvenienced by the closure of McGrath during construction and will not be happy with a proposed urban boulevard, which could increase their commuting times. These constituents can be informed about the current poor level of service on McGrath during peak hours and perhaps some of them can even be converted if the stoplights on the new boulevard are timed properly to maximize throughput along Route 28 and allow for the constant
flow of traffic instead of the current stop-and-go pattern (Figure 8). Local impact can also be mitigated if the teardown and construction is worked on in segments, rather than taking the entire “McGrath” portion of Route 28 out of commission for several years. Throughout the construction process, traffic counts and circulation patterns should be constantly analyzed at regular intervals to understand how traffic is diverted. On a regional level, I-93 may experience reduced LOS due to increased regional traffic but the Green Line Extension and the new Orange Line station at Assembly Square (scheduled to open in 2013) can be recommended as viable alternatives for commuting to Boston. In the best scenario, the closure could also provide an opportunity for permanently converting a small percentage of Somerville commuters into regular transit riders. Ultimately, your primary allegiance should be to the citizens of Somerville as they represent your voter base and core constituency, so increased travel time on I-93 for residents of Medford, Everett, and other northern metropolitan-area communities is not of foremost concern.

![Figure 8: Speed data based on GPS measurement from a vehicle traveling during a morning rush hour on McGrath in June 2010. The numerous "stop" positions indicate the poor timing of the stoplights, which require travelers to come to a full stop quite regularly. This slows overall throughput and reduces average speed for commuters.](image)

In conclusion, proper timing and process are unquestionably vital to the success of this project. Creating a lasting vision for transportation in the city of Somerville based on intermodal trips, increased public transit usage, and improved pedestrian access can be the flagship of your mayoral legacy. Your vision for Somerville as a lively and well-frequented destination and community relies on the creation of appealing and engaging public spaces, which are difficult to create with the unsightly and continually deteriorating conditions of McGrath Hwy. Maintaining
connectivity to Boston and Cambridge for those who need to commute is essential, as 29% and 21% respectively of Somerville’s workers are employed in these cities, compared to just over 16% in Somerville itself (Table 1).\textsuperscript{10}

<table>
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<tr>
<th>City</th>
<th>Number of Employed Somerville Workers</th>
<th>Percentage of Somerville Working Population</th>
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<tr>
<td>Boston</td>
<td>12,235</td>
<td>29.0%</td>
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<tr>
<td>Cambridge</td>
<td>8,780</td>
<td>20.8%</td>
</tr>
<tr>
<td>Somerville</td>
<td>6,865</td>
<td>16.2%</td>
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<td>Medford</td>
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<tr>
<td>Newton</td>
<td>953</td>
<td>2.3%</td>
</tr>
</tbody>
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Table 1: Top five employment locations for Somerville's 42,254 workers as of the 2000 census (Source: 2000 Census Data via Murga, Mikel. "Thoughts and Data on McGrath." 1.252 Course Material, Massachusetts Institute of Technology. Fall 2010).

You have already taken important steps to secure improved transit access so you should seize the opportunity of timing the McGrath closure with opening of new Green Line stations to encourage use of this new (and highly viable) mode choice for Somerville residents. While five years is an ambitious timeline for the entire process of soliciting and selecting proposals, engaging the community for input, creating and approving the EIR, and securing funding, you can capitalize upon the fact that significant funding and construction efforts will be required on McGrath regardless. In the short-term, the ideation and proposal process must be transparent and flexible such that the relevant stakeholders can have their concerns incorporated while a steady cadence is made towards approval and eventual implementation of this exciting vision for the future of Somerville.
References

1 Britland, Ethan. “Route 28/McGrath Highway De-Elevation Study – Request for Response

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6 RFR – MassDOT.


10 Murga, Mikel. “Thoughts and Data on McGrath.”