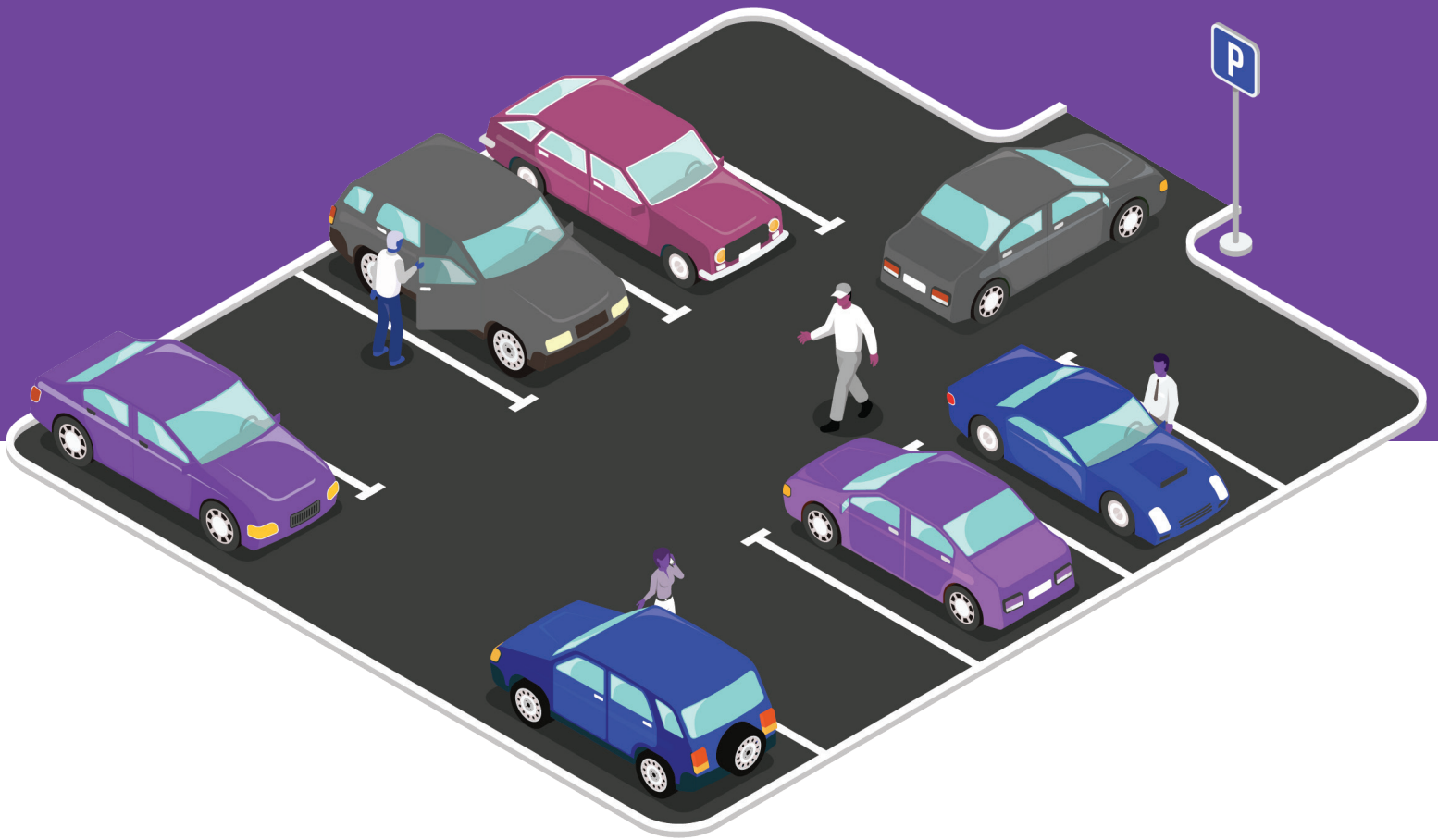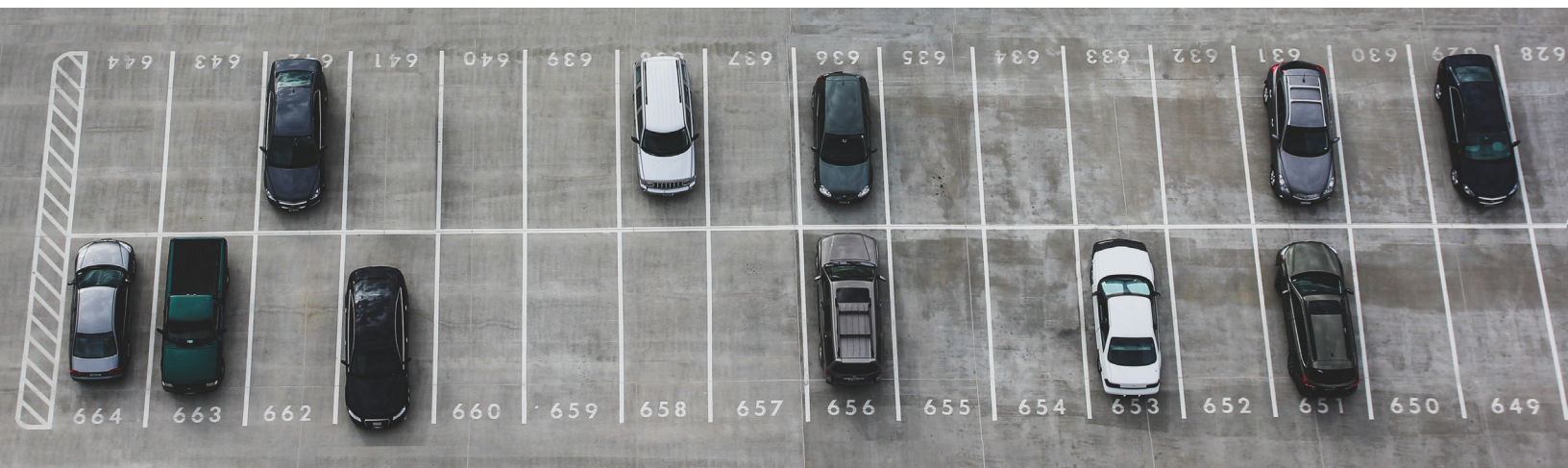# Metro Boston
Perfect Fit Parking Initiative
Phase II Executive Summary

**Metropolitan Area
Planning Council**

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MAPC

Executive Summary

Parking, and especially the amount of parking that should be required with new housing, is a hotly-debated issue in Metro Boston. Some neighbors worry about competition for on-street spaces. Others want to discourage people with more cars from moving into the neighborhood. Developers are understandably focused on marketability and the bottom line. However, there's little guidance on how much parking is actually needed for a given development – and how much is too much.

Excess parking has real consequences. Property that could be landscaped as common or even public green space is instead paved over as parking. Since car owners prefer to live in buildings with easy parking, providing abundant parking encourages more vehicles on the site, increasing the number of trips and traffic on nearby roads. In neighborhoods that are accessible to an MBTA station, this means fewer people use the available transit, while congestion, pollution, and greenhouse gas emissions rise. Finally, of special concern in the face of Greater Boston's housing supply and affordability crisis, more parking means fewer (and more expensive) housing units.

Moreover, transportation infrastructure, design, and travel behaviors are rapidly evolving. Urban residents are turning more often to new options, such as ride-hailing, bike-sharing, and car-sharing. Vehicles able to park themselves, on the market now, can make use of smaller parking garages with more compact stalls and aisles. These changes will

affect parking needs in the very near future. In the further future, autonomous vehicle technology may create an even more radical transformation. This is especially likely if fleets of always-available shared vehicles predominate the autonomous mobility world. In that case, parking demand will likely decrease as vehicles will be in use more of the time.

Despite these ongoing and imminent changes in mobility and car ownership, municipal parking regulations are generally the same as they've been for decades. Requirements are often uniform across an entire municipality, and are rarely informed by real-world data about parking demand in existing developments. Almost none of these regulations account for how the need for parking may vary with development type, location, cost, or transit service. And since minimizing competition for existing on-street spaces – which can be a valid concern – is often the principle purpose of parking regulations, municipalities are naturally inclined to over-prescribe parking as a precaution against spillover.

A more "perfect fit" of parking supply and demand can lower development costs, enable more affordable housing, free up land for open space, and promote sustainable transportation, while also protecting neighborhoods from spillover parking. Communities that adopt a more data-driven approach to decision-making are better able to respond to changing demographics,

unique building characteristics, new transportation technologies, and evolving commuting practices.

Over the past three years, MAPC has set out to measure the actual supply of and demand for residential parking in the Inner Core subregion, which includes Boston and 20 surrounding cities and towns. We interviewed property managers and conducted overnight counts of parking spaces and parked cars at nearly 200 multifamily residential developments in 14 municipalities: Arlington, Boston, Cambridge, Chelsea, Everett, Malden, Medford, Melrose, Newton, Quincy, Revere, Somerville, Waltham, and Watertown. The survey included apartments and condos, large and small projects, and projects close to and far from transit. Counts took place during peak utilization hours: in the middle of the night on weeknights, and not during the summer or near major holidays. Over two phases of research, we obtained data from 189 sites across the study area.[1] The sites included 19,600 housing units, most of which have been built since 2000, and all of which provide off-street parking.

The amount of parking provided varied widely, ranging from 0.25 to 2.0 spaces per unit. The average was exactly 1.0 parking space per unit. Yet it appeared that residents didn't need that much parking, because the garages and lots we visited were rarely full, and many had ample empty parking. In the vast majority of developments we studied, the average parking use was less than one space per household, and across the entire sample, only 70 percent of the available spaces were full when surveyed. In affordable housing developments (sites where 50 percent or more of the apartments are deed restricted) demand was even lower: only 0.55 cars were parked per household.

Overall, 30 percent of the available parking we surveyed was not being used. At a quarter of the sites, less than half the parking was occupied. The pattern of oversupply was observed in all 14 cities and towns. MAPC counted nearly 6,000 empty parking spaces—over 41 acres of pavement—representing an estimated $94.5 million in construction costs (or about $5,000 per housing unit in the survey).[2]

Of course, supply and demand differed at every site. To help explain the variation, we measured 25 neighborhood and building characteristics and investigated their correlation with parking demand (defined as parked cars per occupied housing unit). After exploring all of those variables and their interactions, we identified three factors as strongly predictive of parking demand: transit connectivity (jobs within a 30-minute transit commute); percentage of deed-restricted affordable units; and the amount of parking supplied. In fact, supply (spaces per unit) was the single biggest predictor of demand, suggesting that the availability of parking is attracting car-owning households and influencing their behavior. The more parking is provided, the more likely it is that a household will use it.

These findings make it clear: not only is the over-building of parking in residential developments wasting tremendous amounts of money and useful space; but the provision of abundant parking may also be counterproductive to local transportation goals for traffic and sustainability. Transit-proximate developments that provide easy parking are less transit-oriented than they might seem: they're attracting car-owning households less inclined to use the available transit and more likely to use their cars, affecting local traffic with every trip.

Cities and towns shape the region's transportation future through their land use regulations, and they would do well to implement parking requirements aligned with actual parking demand, emerging trends, and transportation policy objectives. A data-driven approach to modifying parking

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1   Phase 1 of this effort, which took place from 2015-2017, comprised 80 sites in five communities north of Boston: Arlington, Chelsea, Everett, Malden, and Melrose. Results are described in a separate report http://perfectfitparking. mapc.org/uploads/FINAL_Metro%20Boston%20Perfect%20Fit%20Parking%20Initiative%20Report_2-3-17.pdf

2   Blended rate determined by average construction costs for surface and garage spaces and based on proportion of surface (42 percent) and garage (58 percent) spaces observed during overnight parking counts. We estimated an average construction cost of $23,500 per garage space based on WGI's Parking Structure Cost Outlook for 2018, which assumes all above-grade construction. For surface space construction costs, several sources (including Todd Litman's "Parking Requirement Impacts on Housing Affordability" and Joe Cortright's "The price of parking") cite costs at $5,000-$10,000/space; we assumed a below average rate at $6,000/surface space.

requirements and instituting smart parking policies can prevent excess parking construction, reduce development costs, and make additional land available for more productive uses, such as more housing units. As this research shows, the right parking policies also have a role to play in enabling more housing production near transit and promoting the use of low-carbon transportation modes.

Some of the communities in the study area have already taken steps to tackle excess parking, allowing for more flexible parking requirements in some of their most walkable and transit-oriented districts. The findings from our research, however, reveal that more work needs to be done.

For cities and towns looking to alleviate the burdens of excess parking and to expand sustainable transportation options to residents, MAPC recommends the following:

Require fewer spaces— or none at all

Much of the oversupply we observed stemmed from excessive parking requirements in the local zoning code. In Metro Boston, many developments are approved through a special permit process. During this process, developers often advocate for reducing parking beyond the minimums required through zoning, but confront resistance from neighbors. Every city and town can consider reducing their existing requirements, and, more importantly, can tailor those requirements to different types of development in different locations. Shared parking (daytime/nighttime) is one proven strategy for reducing parking construction while meeting community needs. In some cases, and as San Francisco has just done, parking minimums can be entirely eliminated, and parking maximums established to prevent over-supply.

Design transit-oriented developments for transit-oriented households

Abundant parking at developments meant to be transit-oriented is counter-productive. It attracts car owners; makes housing less affordable for car-free or car-limited households; and encourages residents to use cars for trips that could be made by transit, walking, or biking. New housing in areas with good transit connections should provide less than one space per unit, so as to attract households with fewer vehicles. Bike storage, car sharing, transit subsidies, shuttles, and human-oriented design are also all key elements of transit-oriented development.

Don't make people pay for what they don't need

In many developments, housing and parking is a package deal. Car-free households have to pay for parking they don't use or are tempted to buy a car to take advantage of the free parking. Property owners should unbundle the rental costs for housing and parking so that residents can choose whether or not to rent a parking space. State and local regulators should encourage or require property owners to do so. Furthermore, regulations and development approvals should be structured so that parking spaces not needed by building residents can be leased to neighbors, local employees, or commuters.

Less parking, more affordable housing

Developments with more subsidized units require less parking than market-rate developments, and produce correspondingly fewer auto trips. Communities seeking to reduce traffic impacts of new development should require more affordable units and enable lower parking requirements in return. This is particularly true for development sites near transit, where affordable requirements should be higher than elsewhere, and parking requirements lower. State and
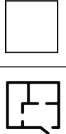
local regulators should provide credit for lower levels of car ownership and trip generation at sites that include a substantial amount of affordable housing, and affordable housing funders and developers should avoid spending scarce public resources on parking that is likely to go unused by residents who can't afford to own a car.
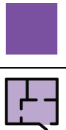
Get ready for a parking marketplace

The increasing pressure on street parking, combined with excess parking in residential (and possibly commercial) developments and the rise of the sharing economy, sets the stage for an app-enabled marketplace in which residents and property owners can rent spaces on demand, for minutes or months (think Airbnb for cars). Public agencies have the opportunity to set parameters and tax policy now, before this market has established itself and becomes resistant to regulation. Cities and towns can be leaders in this field until the Commonwealth acts.
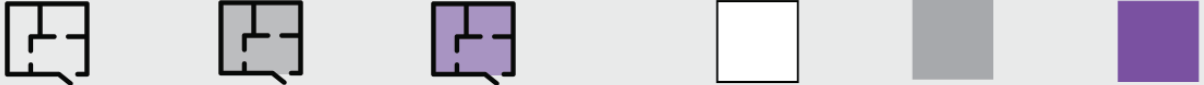
Along with other strategies described in the report, these approaches can be used by municipalities, developers, advocates, and other stakeholders looking to implement a smart parking solution and to reduce the barrier excess parking places on the development of transit-oriented, walkable, and diverse communities.

Definitions of terms used in the report:

Parking Supply per Unit

the total number of parking spaces divided by the total number of housing units

Parking Demand per Unit

the number of occupied parking spaces divided by the number of occupied housing units

Parking Utilization

the number of occupied parking spaces divided by the total number of parking spaces

| total housing units | unoccupied housing units | occupied housing units | total parking spaces | unoccupied parking spaces | occupied parking spaces |