

1. Smart City & Smart Parking Technologies:

IoT (Internet of Things) and AI are being used to create smarter parking systems. These technologies help optimize parking availability and reduce search times by using advanced sensors, machine learning, and automated systems to guide drivers to vacant spaces. Using advanced technologies, these systems improve efficiency, reduce traffic and pollution, and offer greater convenience for motorists. Despite the challenges, the implementation of Smart Parking can transform urban mobility, helping to create more livable and sustainable cities.

Source:

<https://frontiere.io/smart-parking-the-smart-solution-for-urban-mobility/>

<https://www.mdpi.com/1424-8220/23/21/8753>

Case Studies-

- The city of San Francisco has implemented smart parking systems using IoT sensors and real-time analytics. These solutions reduce congestion caused by drivers searching for parking, provide real-time data to manage parking demand, and improve overall urban land utilization. The system also encourages sustainable mobility by integrating parking facilities with public transit hubs. San Francisco's reforms focus on reducing car dependency through strategies like demand-responsive pricing and the elimination of parking minimums. These efforts have reallocated urban space to pedestrian-friendly uses and enhanced the city's walkability, bikability, and transit access, serving as a model for sustainable urban planning.

Source:

<https://www.design-thinking-association.org/explore-design-thinking-topics/external-links/design-thinking-transportation-unleashing-innovative>

<https://itdp.org/2024/02/01/in-these-us-cities-parking-reform-is-gaining-momentum/>

- The city of Minneapolis' Parking Reforms: Minneapolis undertook an incremental approach to parking reform, removing parking minimums in certain zones before expanding this policy citywide by 2021. These changes are tied to broader goals of reducing car dependency, improving urban density, and addressing climate change. Data-driven assessments have shown reduced construction costs and better land use allocation.

Source:

<https://itdp.org/2024/02/01/in-these-us-cities-parking-reform-is-gaining-momentum/>

- Parking and Zoning Policy in Atlanta: Atlanta commissioned a comprehensive review of its zoning policies in 2015, focusing on transitioning from parking minimums to parking maximums. While implementation has been gradual due to public concerns, the city aims to incorporate these reforms in its upcoming zoning updates, aligning them with sustainable urban development goals.

Source:

<https://itdp.org/2024/02/01/in-these-us-cities-parking-reform-is-gaining-momentum/>

- FlashParking has developed mobility hubs in multiple U.S. cities, repurposing parking lots to include EV charging stations, shared mobility services, and last-mile logistics solutions. These hubs aim to address congestion and support sustainable urban mobility.

Source:

<https://www.citytech.org/the-largest-us-parking-facility-is-transforming-into-an-innovation-lab>

<https://www.modii.co/insights/unlocking-urban-mobility-exploring-the-impact-of-smart-parking-solutions-on-city-residents>

2. Connected and Autonomous Vehicles (CAVs) in Urban Mobility

Cities like Boston and Las Vegas highlight the integration of CAVs into urban transportation networks. These projects focus on reducing traffic congestion, enhancing safety, and improving mobility options. CAVs also align with plans to incorporate renewable energy and smart grids into urban systems, as seen in municipal smart city strategies.

Source:

<https://frontiere.io/smart-parking-the-smart-solution-for-urban-mobility/>

<https://www.dot.nv.gov/mobility/avcv>

Additional Resources

<https://www.chapmantaylor.com/insights/the-impact-of-autonomous-vehicles-on-urban-planning>

<https://www.modii.co/insights/unlocking-urban-mobility-exploring-the-impact-of-smart-parking-solutions-on-city-residents>

https://baltometro.org/sites/default/files/bmc_documents/general/transportation/transit/CAV-Recommended-Actions.pdf

<https://www.verramobility.com/wp-content/uploads/2024/06/Verra-Mobility-UrbanMobilityTechSurvey-2024-vFF.pdf>