

Smart City Policy Framework

October 12, 2021 Draft

Culver City community members are creating a new vision and guiding principles for the city's future. This initiative, "Picture Culver City," is a comprehensive General Plan Update (GPU) and will result in new long-range planning documents with goals, policies, and actions. Together, these documents will maintain Culver City's uniqueness and create opportunities to improve every aspect of the city—including economic growth, transportation, housing, climate change, and more—through 2045.

This Smart City¹ Policy Framework DRAFT is an **interim step** in the GPU process that recommends adopting lessons on digital infrastructure and policy upgrades learned from COVID-19 that accelerated the adoption of new programs. Many new cloud services have already been tested for one year, demonstrating the capability for more agile programs developed with input from each community. These lessons help validate the priorities and improve the risk management for future projects. This policy framework is primarily based on input received to date during the GPU process from the community, the General Plan Advisory Committee (GPAC), the Technical Advisory Committees (TACs), City staff, Planning Commission, and City Council.

Where We Are Now

The Smart Cities Existing Conditions Report, prepared for this GPU, was based on pre-COVID community policies and priorities. However, from early 2020 to mid-2021, the COVID-19 pandemic triggered "10 years of change in 90 days."² These rapid changes may affect the smart city priorities in all elements in the GPU.

COVID-19 expedited policy innovations around technology. It also changed how technology is integrated into community development patterns and how residents live, work, and play. Changes that usually take years to make happened in a matter of months. New digital-services are already being offered for telework, telehealth, tele-education and home-delivery of food and e-commerce, changing how offices, retail, and homes use them. COVID-19 has shown that a smart city needs to support better choices more rapidly and hybrid models.

The GPU can enable "SmartBuilding" to integrate smart city technology with post-COVID-19 recovery planning for office, retail, and entertainment districts. The GPU can also help re-activate downtown Culver City, starting with streets and parking, and enable more community access and transit choices with smart city services³.

¹ "Smart cities aim to provide intelligent solutions, based on real world data and community feedback, to meet the basic needs a city should offer its community members. " CCGPU Smart Cities Report – Existing Conditions Report, Background p,2 (Deakin) https://en.wikipedia.org/wiki/Smart_city

² " the Quickening" McKinsey. <https://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/five-fifty-the-quickening>

³ Smart City services often start with help (911,311) especially way-finding (Google, Maps). Integrating public services with private offerings is key to upgradable community programs with more lifestyle choices for working, hoteling, dining, and ridesharing (Uber, Airbnb, WeWork, Zoom). https://en.wikipedia.org/wiki/Smart_city

Threats to achieving a smart city include the following:

- **Digital Services:** Culver City is sensitive to new Working From Home (WFH) lifestyle choices impacting hybrid office, retail, and hospitality requirements.
- **Limited economic resiliency:** Partly due to Covid19 e-commerce trends, rents for big box and shopping center retail types (such as in Fox Hills) and traditional strip retail (such as along Venice and Sepulveda) have been stagnating. This threatens the ability of these retail types to continue supporting economic growth and fiscal revenues.
- **Strained housing resources:** The lack of affordable housing options and high ratio of jobs to housing make Culver City an increasingly difficult place to live for essential workers.

What We Heard

This section summarizes themes from discussion groups and interviews relating to smart cities. It highlights key issues from other GPU policy action plans and suggest a more agile, smart city approach to adoption and incubation.

Re-activating the downtown is a challenge. The City has responded in many ways to the COVID-19 pandemic and found that simple changes often enabled better choices. For example, safety and public health were improved by closing traffic lanes to allow space for outdoor dining, retail sales, and recreation activities. These closures helped deploy a Slow Streets program. Creating “pop-ups” for new parking and district zoning may support back to work “hybrid offices.”

Tactical mobility. The City’s project, MOVE Culver City, has engaged the community around tactical mobility projects to improve travel in Culver City. This effort uses quick-build materials to test a planned Downtown-E Line-Arts District tactical mobility lane (first of the three project corridors). This lane is meant to improve the movement of transit buses, bikes, scooters, and emergency vehicles. The GPU can incorporate lessons learned from the MOVE Culver City process to reallocate public right of way, develop permanent projects out of MOVE Culver City pilot projects, and continue to redesign Culver City streets and public spaces to prioritize people over cars.

Transit access: Continuing to expand and coordinate Culver CityBus operations with other regional transit service providers will enhance service to the city, making its central location even more accessible.

Digital access is key. About 19% of households in Culver City do not have Wireline broadband subscriptions, meaning they do not have cable, fiber optic, or DSL; and about 8% of households in Culver City do not have Internet access.⁴ Often, essential workers need the most infrastructure support to access transit, daycare, safety, and

⁴ U.S. Census Bureau. 2015-2019 American Community Survey 5-Year Estimates. Table B28002: “Presence and Types of Internet Subscriptions in Household.” <
<https://data.census.gov/cedsci/table?q=&text=b28002&q=1600000US0617568&tid=ACSDT5Y2019.B28002>>.

security⁵. In an effort to close this digital divide, City Council approved entering into an agreement with Ting Fiber to create an Affordable Housing Internet Connectivity Program. The program will establish a pilot project to provide Internet access services to residents of affordable housing at a reduced cost.

Sustainability via community. The sustainability services that improve resilience from power outage, storms, and fires also enable better safety and security community services. The city needs to provide walkable access to more open space and public places that offer better indoor and outdoor services. Culver City community development can become a model for regenerative programs and environmental stewardship.

Housing: The pace of housing development in the city has not kept up with the city's pace of job growth. This imbalance creates housing shortages, reduces housing affordability, and increases commuter traffic. The city needs more sustainable, affordable, and diverse housing options for both renters and owners of all ages. To encourage these housing options, the city can offer developers more incentives to build housing, reduce the costs of development, and expedite the current development process.

Economic resilience via digital inclusion: The city should incubate a "business ecosystem," fostering a diverse mix of large and small business and community services. Access to high-quality, essential municipal services (police, public works, fire, and emergency services) is key to ensuring community safety and security. Distinctive service offerings can incubate and showcase hospitality services and experiential retail.

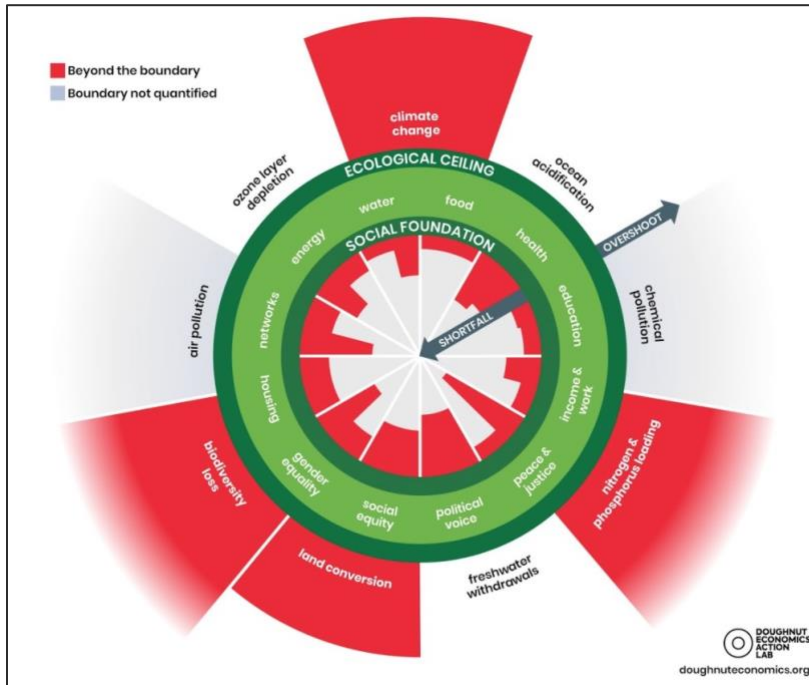
Distinctive lifestyle via quality services: Community benefits generated by new commercial development could support and enhance the quality of life for all Culver City residents. Examples of smart city policies could include:

1. Providing digital access for all, including community Wi-Fi, charging stations, lighting, security, and street furniture⁶ digital access.
2. Electrifying everything, including "Maker Kits" for solar, battery, fleet-upgrades, and building-services.
3. Offering lifelong digital learning, including self-improvement programs for Culver City residents.
4. Approaches that consider social justice, including building institutional trust and addressing community-led priorities (such as safety and food-security, see Doughnut Economic framework - Figure 1).

⁵ "Ting partnership with Culver City will provide free internet access to affordable housing units across 17 properties in the city." <https://www.culvercitynews.org/ting-internet-now-connected-in-culver-city/>

⁶ Street furniture "a collective term for objects and equipment installed along streets and roads for various purposes." https://en.wikipedia.org/wiki/Street_furniture

Figure 1 – Doughnut Economic Framework⁷



Where We Want To Be in the Future

The Smart City Policy Framework will achieve outcomes, goals, policies, and actions that are based on feedback from Culver City residents, State agencies, and City staff through the community outreach and engagement process since 2019. Each outcome will include key performance indicators with targets for measuring progress. Each goal is accompanied by a symbol that identifies the cross-cutting community value supported through the policy's implementation. The cross-cutting community values are listed below:



Equity + Inclusion



Compassion + Community



Innovation + Creativity



Sustainability

Outcomes and Performance Indicators

- **Outcome:** Culver City residents are safe from climate and hazard impacts.

⁷ Dimensions of the Doughnut version 1.0, Doughnut Economics Action Lab (DEAL) September 2020. https://doughnuteconomics.org/tools-and-stories/30?users_page=2.

- **Target:** X resilience hubs⁸ created, X low-income and senior housing units received weatherization/upgrades, X% reduction in heat deaths, X% reduction in hospitalizations, X% reduction in emergency room visits
 - **Key Performance Indicators:** Number of resilience hubs created, low-income and senior housing units receiving weatherization and energy efficiency upgrades, heat deaths, hospitalizations, and emergency room visits.
- **Outcome:** Culver City offers hybrid office, retail, and care services with multimodal mobility access to experiential retail and wellness services.
 - **Target:** The City creates a Zoning for Enhanced Service District with mixed-use “hybrid” building and multimodal mobility choices (using Transportation Demand Management, TDM).
 - **Key Performance Indicators:** Square footage of new/redeveloped experiential retail. Permits issued for new development/adaptive reuse of retail spaces. Average Vehicle Ridership through the future TDM program.
- **Outcome:** The City switches residential and commercial to all renewable energy sources: solar, wind, battery (SWB).
 - **Target:** 80% of electricity is generated via carbon-free renewables by 2030 statewide.
 - **Key Performance Indicators:** Percent of residential and commercial membership in Clean Power Alliance programs. Percent of Southern California Edison (SCE) decarbonization that supports clean energy targets.
- **Outcome:** Vehicles that offer services within the community, like transit and school buses, ridesharing companies like taxis, Uber, and Lyft; and City fleets related to patrol and parks services convert to electric vehicles.
 - **Target:** 100% Culver CityBus and light duty city fleet by 2028, x% of rideshare fleet⁹ is electric, x% of school buses are electric¹⁰
 - **Key Performance Indicators:** Number of electric school buses, municipal vehicles, taxi, Uber, and Lyft vehicles; and mass transit.
- **Outcome:** Internal combustion engines are replaced with electric for passenger vehicles and trucks.
 - **Target:** 100% passenger electric vehicles by 2035.
 - **Key Performance Indicators:** Number of electric passenger vehicles and trucks.

⁸ Resilience Hubs “are community-serving facilities augmented to support residents, coordinate communication, distribute resources, and reduce carbon pollution while enhancing quality of life.”
<http://resilience-hub.org>

⁹ Lyft and Uber “have promise to convert their US fleets entirely to EVs by 2030.”
<https://www.reuters.com/business/autos-transportation/lyft-launches-ev-rental-pilot-program-ride-hail-drivers-northern-california-2021-06-15/>

¹⁰ California Energy Commission School Bus Replacement Program, “LAUSD School Buses start to go electric” <https://spectrumnews1.com/ca/la-west/transportation/2021/02/25/lausd-purchases-ten-electric-school-buses>

- **Outcome:** New and existing buildings are decarbonized and operate on carbon-free energy, reducing their carbon footprint.¹¹
 - **Target:** 100% of new and existing buildings are all-electric and energy-efficient with an average energy use intensity (EUI)¹² of 40 or lower. Energy supply is 100% carbon free/renewable.
 - **Key Performance Indicators:** Number of buildings retrofitted per year to be all-electric. Source of building electricity. Total kilowatts or megawatts of distributed renewables installed. Number of Leadership in Energy & Environmental Design (LEED)-certified buildings. Energy Use Intensity for existing buildings. Netzero occupancy (hours/day %).
- **Outcome:** The City creates Enhanced Service Districts that incentivize better Consumer behavior and public asset access.
 - **Target:** A Culver City loyalty card program is established and single-occupancy vehicles (SOVs) are tolled.
 - **Key Performance Indicators:** parking pricing, SOV tolling, transit TDM¹³.
- **Outcome:** Fresh and healthy food is available within walking distance of city residents
 - **Target:** Fresh milk and produce is within a 10-minute walk of all residents.
 - **Key Performance Indicators:** Number and location of farmers markets, consumer-supported agriculture offerings, cloud-kitchens,¹⁴ and delivery services.
- **Outcome:** Water resources within the city are preserved to support designated beneficial uses.
 - **Target:** Improved water quality in receiving waters from the City's runoff.
 - **Key Performance Indicators:** Certifications from the National Audubon Society that enable community development (yes-in-my-backyard & migration-commons).
- **Outcome:** The City has a multimodal transportation system that everyone can use.
 - **Target:** The community is walkable and connected with available public transit that eliminates the need for private vehicles. The city has safer streets and resilient, secure transit hubs.

¹¹ California Energy Commission code 2022, "Electrification is critical for decarbonizing buildings..."

<https://www.greenbiz.com/article/california-just-took-huge-step-towards-building-electrification>

¹² Energy Use Intensity (EUI) reflects a building's energy use by characteristics like size (typically square footage), and can indicate the energy efficiency of the building's design or operations.

¹³ Single Occupancy Vehicles (SOV) and Transit Demand Management (TDM) "how soon before an increased reliance on single-occupant vehicle (SOV) use overwhelms our transportation system?"

<https://nelsonnygaard.com/the-new-tdm-challenge-flattening-the-return-to-work-sov-curve/>

¹⁴ Cloud-kitchens also known as ghost or virtual kitchens are commercial kitchen spaces that offer food businesses the facilities and services they need to prepare food for delivery and takeout.

- **Key Performance Indicators:** Trips taken by private vehicle; vehicle miles traveled; carbon footprint from transportation. Transit mode share, Street deaths, and transit crimes.
- **Outcome:** The most vulnerable Culver City residents are protected from climate change and have access to resilience centers, food, and shelter services.
 - **Target:** Reduced number of homeless camps and street violence while increasing food security and wellness services. Reduced hospitalizations and emergency room visits.
 - **Key Performance Indicators:** Homeless population (%), food-secure population (%), violence against women (%), arrest-record (pop%).

Policy Framework



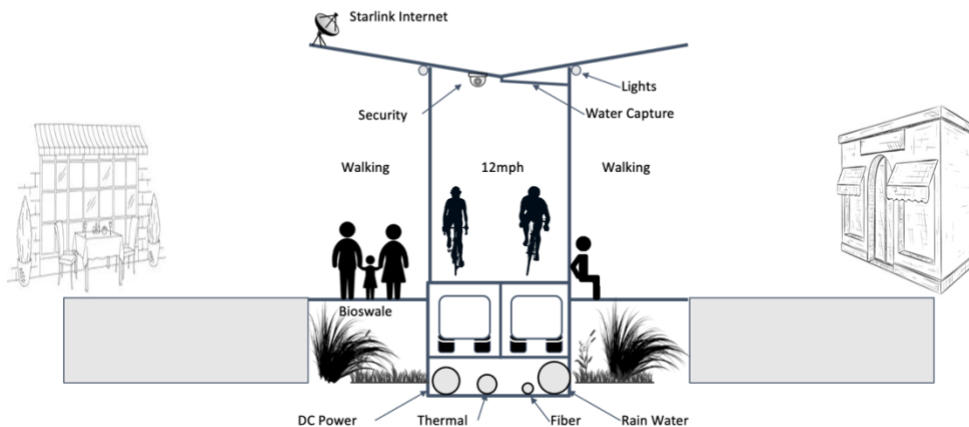
- **Goal 1: Activity Centers** Resilient activity centers are established with access to always-on community services.  
 - **Policy:** Ensure residents and businesses have access to carbon-free and renewable energy.
 - **Action:** Incubate the development of community solar, active transit services, and active main streets.

Figure 2 – Active Main Street enabling more “complete neighborhoods”

Active Main Street™



- **Goal 2: Electrify Everything.** The electric grid is decarbonized and City fleets and passenger vehicles are converted to electric.

- **Policy:** Enable more “complete neighborhoods”¹⁵ with zoning and permitting.
 - **Action:** Require all new buildings to be all-electric and require that all new construction install photovoltaic panels and electric vehicle chargers.
 - **Action:** Establish a streamlined approval process for “mixed use buildings and mixed use development (MXD)”¹⁶
 - **Action:** Enable mixed use and SWB community grid services.
 - **Action:** Simplify rezoning and permitting processes for mixed use development (MXD) and more “complete neighborhoods”.
- **Goal 3: Greenhouse Gas Emissions.** The transportation sector is no longer a source of greenhouse gas emissions.
 - **Policy:** Reduce vehicle miles traveled while supporting active transportation, increasing transit use, and enabling the shift to fossil-free vehicles.
 - **Action:** Install additional electric vehicle (EV) chargers at commercial and residential properties and suitable public facilities, including downtown parking structures and community parks.

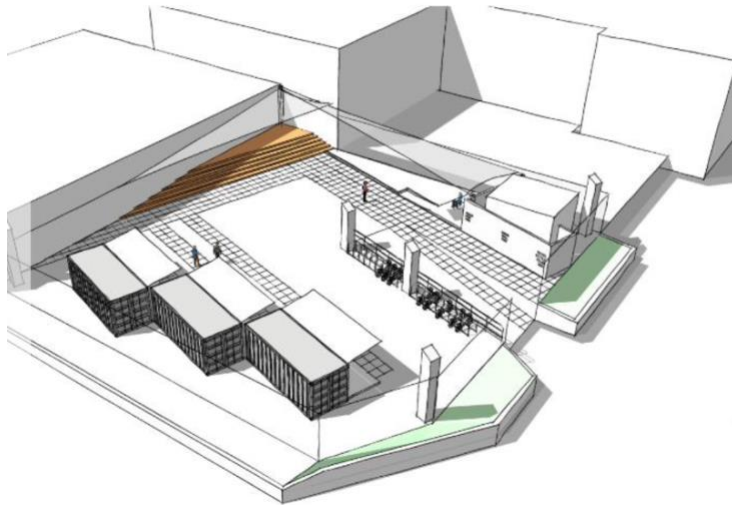
¹⁵ A “complete neighborhood” is an area where residents have save and convenient access to goods and services they need on a daily or regular basis.

<https://www.portlandonline.com/portlandplan/?a=437441>

¹⁶ Mixed-use is a style of [urban development](#), [urban planning](#) and/or a [zoning](#) type that blends residential, commercial, cultural, institutional, or entertainment uses into one space. Mixed-use development may be applied to a single building, a block or neighborhood, or in zoning policy across an entire city or other political unit. https://en.wikipedia.org/wiki/Mixed-use_development

Figure 3 – Mobility HUB¹⁷ featuring a Retail Park with Solar Charging

Solar Charging stations - Retail Parks



- **Goal 4: Control Center.** The city establishes a program office/ control resilience center.
 - **Policy:** Establish resilience centers¹⁸ with agile program office services.
 - **Action:** Establish resilience nodes with scalable “always-ON” services.
 - **Action:** Develop agile, community-led programs with public-private sponsors.

¹⁷ Mobility HUB: “the concept is to create a community gathering place that offers charging outlets for electric vehicle, car-sharing stalls, a ballot drop-box, maps and interpretive signage, , electric wheelchair charging and “smart furniture” to charge phones and devices. Also host food carts, offer free wi-fi and have a public restroom that’s staffed 24/7. ” <https://bikeportland.org/2019/11/20/council-moves-pges-central-eastside-mobility-hub-forward-307915>

¹⁸ Resilience Center: The new center will house the Police Department and Emergency Management program and provide essential community services, including private space for victim interviews, evidence storage areas and dedicated space for emergency operations. The seismically stable building is designed to remain fully operational and provide uninterrupted emergency service to the community after a major earthquake or disaster. The building is designed to maintain power, even if there are outages in the immediate vicinity, due to its connection with a microgrid with solar, batteries and generator providing onsite electricity. <https://portlandgeneral.com/news/2019-09-11-city-of-beaverton-and-pge-announce-community-resiliency>

- **Action:** Provide Data Custodian services supporting Open Data and My Data management with opt-in, opt-out choices for digital inclusion and privacy.
- **Action:** Establish IoT Enabled Smart (IES) Cities Framework¹⁹ supporting vendor qualification and project delivery and commissioning services, collaborate with other Resilience Communities, and join Open Commons.²⁰
- **Action:** Set up testbed incubators, baseline key indicators²¹, and monitor action-labs.

Figure 4



- **Goal 5: Digital Services.** The critical infrastructure program ensures equitable access to digital services.
 - **Policy:** Collaborate with building owners to make a public workstation available within walking distance of every residence in Culver City.
 - **Action:** Partner with the Culver City Julian Dixon Library to establish public workstations to access City services.
 - **Action:** Develop agile, community-led programs with public-private sponsors to support equitable access to digital services.
 - **Policy:** Culver City supports digital infrastructure standards and agile program development for resilient community services²²

¹⁹ IES Cities Framework: "Developing a consensus Framework for Smart Cities Architecture" <https://pages.nist.gov/smartcitiesarchitecture/>

²⁰ Open commons is a public platform to access free digital programs and resources. https://catalog.opencommons.org/Main_Page

²¹ Dimensions of the Doughnut Economy Action Lab (DEAL) framing Ecological Ceiling and Social Foundation framing the "Human Selfie" (21 dimensions). <https://doughnuteconomics.org/tools-and-stories/30>

²² Internet-of-Things Enabled Smart (IES) City Framework "a consensus framework for Smart City architectures" (release 1.0) <https://pages.nist.gov/smartcitiesarchitecture/>

- **Action:** Develop a fair and flexible regulatory environment to nurture and expand new mobility ideas.
- **Action:** Develop a data management plan for City operations, planning, and decision-making.
- **Action:** Develop a data security plan to ensure security and privacy compliance as data elements are collected and consumed to enable digital services.

Figure 5 – Smart Lampposts²³ proposed for Oxford Street, London...security²⁴... traffic-free²⁵?



²³ London Smart Lamppost <https://www.iotm2mcouncil.org/iot-library/news/smart-cities-news/smart-lampposts-can-help-cities-fight-covid-19/>

²⁴ Oxford Circus camera monitoring? <https://www.standard.co.uk/news/london/police-roll-out-controversial-live-facial-recognition-technology-at-oxford-circus-a4367416.html>

²⁵ Oxford Street traffic-free? <https://www.london.gov.uk/city-hall-blog/plans-traffic-free-oxford-street-unveiled>