Open Working Group on Emerging Technology
July 9, 2018 Meeting Minutes

1. Call to Order
   City Administrator, Naomi Kelly and Supervisor Yee called the meeting to order at 2:05pm

2. Introductions
   Guests Present:

Arielle Fleisher, SPUR	Brian Wiedenmeier, SF Bike Co	Gary Stock, Firely
Jacqueline Piccini, Noyola Piccini	Jonas Soluk, UC Berkeley	Julianne Marshall, Marble
Mark Dowd	Nadia Hewett, WEF	Sam Dreiman
Susan Poor	San Franc Tech	Vignesh Ganapathy, Postmates
Peter Warfield, Library Users	Michelle Beaulieu, Transportation Authority	Anette Williams, SFMTA
Andrew Sun	Anya Deepak, Dept. of the Environment	Carmel Gisslow, New Deal Advisors, student
Christopher Whipple	Claire Peters, Pursuance	David Chasteen, SFPD
Erica Maybaum, Supervisor Yee's office	Gillian Gillett, Mayor's Office	Joanna Fraguli, MOD
Joshua Miele, Smith-Kettell	Julianne Marshall, Marble	Laura Gray, Cruise Automation
Luis Cuadra, Marble	Marie Jobling, Community Living Campaign	Nina Asay, The ARC SF
Patrick Fosdahl, Public Health	Pete Gould, Share Mobility Strat.	Rudy Gonzales, SF Labor Council
Kim Tavaglione, National Union of Healthcare Workers	Sidharth Mishra, America Works	Susan Ma, Office of E & Workforce
Vas Kiniris, SFCDMA	Vikrum Aiyer, Postmates	Wendy Goodfriend, Dept. of the Environment
Zachary Drucker, SF Citi	Brian Roberts, Dept. of Tech	Dilliion Auyoung, SF MTA
Shahhid Buttar, EFF	Abe Field, Lavos Latino	Andy Thornley, SFMTA
Cathy DeLuca, Walk SF	David Noyola	Dennis Garcia, Catholic Charities
Dmitri Shimolin, Applied Video Service	Franco Arieta, Zipcar	Henry Karnilowicz, Castle District Motions
John Lazar, Luxe Cab-DVJ Consulting	Lauri Sanchez, Community Tech Network	Mark Dowd, Smart Cities Collab
Miriam Zouzounis, OOB	Molly Turner, SPUR	Nadia Marquez, Cruise
Patty Kwok, JVS	Paul Chasans, Planning	Sabrina Sussman, Zipcar

Sarah Wan, Community Youth Center	Sasha Latsenia, Kiwi	Shen Kuan, Lighthouse for the Blind
Steven Buss	Stonly Baptiste, Urban US	Maurise, Bizzarri
Yvette Davis, Marble	Jen Stojkovic, SF City	

Committee on Information Technology Staff:
- Matthias Jaime
- Brit Bieber

MOCI
- Krista Canellakis
- Daniel Palmer
- Ximena Sarango

SFPW
- Debra Lutske
- Stacey Lee
- Ana Diaz

MTA
- Danielle Harris

OnStrategy
- Tim Robb
- Lorna Shepard

3. Overview of Working Group
   Download: July 9 Emerging Tech Presentation. pdf

Attendees' responses to the text poll question, "In 1 word, what technology topic(s) do you want this group to discuss?"

4. Participant Input

   Through a series of facilitated exercises completed in small groups of 7 to 10 people, attendees identified:

   a) Benefits of emerging technology

JULY 9 OPEN WORKING GROUP BENEFITS OF TECHNOLOGY				
Group 1	**Group 2**	**Group 3**	**Group 4**	**Group 5**

• Equity – Services to low served areas
• Accessibility – more people can use service
  ○ Elderly disabled
  ○ New revenue
• Efficiencies
  ○ Better pricing
• Connect to larger consumer base
• Safety – navigate complex environment
  ○ Less fatalities
• New occupations
• Environment
• Sustainability
• Agility
  ○ "disrupt" all more respond, decisions and actions
• Planning better
• Access to critical services
• Interconnectivity
  ○ New communication channels
• New data/information
  ○ Info at scale
  ○ New types of data collected
  ○ Merchants make better buying decisions
• Affordability – can provide better option
• Displacement
	• Inclusion
	• Lower cost/better services (maybe no services)
	• Optimize the benefits in services
	• Convenience
	• Reduce suffering
	• Access
	• Communication
	• Connectedness and community
	• Flexibility in design
	• Identity
		• Respond to citizen demands more quickly
		• Improve quality of life and access
		• Innovation
		• Job creation
		• Convenience
		• Simplify
		• More knowledge and insight to SF
		• Better living through big data
		• Improved disability access
		• Time management
		• Business models/city services
		• Improving methods and techniques
			• Better coordinated services
			• Better access to communications and qol
			• Enhanced safety
			• Better connections
			• More time/lazy
			• Inclusivity
			• Equity
			• Faster response to need
			• Increased opportunity for local biz
			• Comm among sectors
			• Improved mobility
			• Better oversight (vendors)
			• Transparency
			• Increased efficiency
			• Reduced disparity
			• Increased opportunity for education
			• Reduced costs for services
			  ○ Greater impact
			  ○ Greater collective benefit
			  ○ Free other resources
			• Efficient uses of unused cap (i.e. housing, cars)
			• Re-envisioning public spaces
				• Increased mobility
				• Flexible equity
				• Decreased cost of living
				• Advancing city priorities
				• Data informed decisions and policy making
				• Decreased environmental impact
				• Public health
				• Efficiency
				• Safety
				• Better use of public assets
				• Increase accessibility
				• Increased accountability

Group 6	**Group 7**	**Group 8**	**Group 9**	**Group 10**
• Economic opportunity • Cost savings/efficiency • Emissions reductions • Safety • Data driven/research • Accessibility • Resilience • Encouraging innovation • Inclusivity equity • Transparency • Security • Corruption reduction • Convenience	• Reduce pollution • Saving resources • Increased transparency • Enhance delivery of goods • New possibilities/paradigm shift • Community building • Reduction in crime equality faster deployment • Less public spending/burden • Partnership	• Make life better • Increased accessibility • Connected (social communication) • Increased mobility • Decreased congestion • Convenience • More pleasant • Increased public safety • Increased choice • Increased transparency	• Democratization of services • Efficiency • Public safety • Accessibility • Sustainability • Improved transportation • Learning and research • Quality of life • More Non-PI data • $ for some	• Accessibility – democratization, food deserts, infographics • Efficiency • Responsiveness • Convenience • Iterative learning – get beyond assumptions of what people want • Intuitive • Adaptive • Connection to community and

● Visibility
● Future
● Democracy
● Public value
● Creating jobs
	● Safety
	● Efficiency/speed
	● Decentralization of power
	● Job creation
	● Accessibility
	● Reduce traffic (walking congestion driving)
	● Increase civic engagement
	● Economic development
	● Quality of life
		● Innovations in health and medical advancement
		● Greater quality of life
		● Decreased anxiety
		● Increase environment
		● Increased ability to understand city functions through data
		  ○ Transparency of resources
		  ○ Monitor use
		● Transformational materials (spray on solar)
				exploration (next door)
				● User friendliness
				● Opportunities for transparency
				● Alternatives to vehicle travel

b) Critical principles or considerations of technology and the ideal outcomes if the City gets the balance of emerging technology and critical principles right.

Group 1
If we get the balance right of the presence of emerging technologies in our city, and **equity and accessibility, safety, and net common good** the ideal outcome is **a city that works with private enterprise to enhance safe and equal services.**
Group 2
If we get the balance right of the presence of emerging technologies in our city, and **equity, data driven policy, and privacy / user protection** the ideal outcome is **a live able, safe, inclusive city for all of those experiencing San Francisco.** If we get the balance right of the presence of emerging technologies in our city, and **equity, data driven policy, and privacy / user protection** the ideal outcome is **responsive regulatory framework that is not over burdensome and fosters and promotes innovation and collaborations including public/private partnerships.**
Group 3
If we get the balance right of the presence of emerging technologies in our city and **equity** the ideal outcome is **a just and prosperous city, with access for all.**
Group 4
If we get the balance right of the presence of emerging technologies **of the net common good** the ideal outcome is **a City that improves quality of life and builds a connected, engaged community.**
Group 5
If we get the balance right of the presence of emerging technologies in our city, **we will build a tech ecosystem that delivers an equitable environment with enhancing public safety and security through a nimble and responsive policy and governance.**
Group 6
If we get the balance right of the presence of emerging technologies in our city, and **economic considerations, cost savings / efficiency and equity,** the ideal outcome is **to create trust among public, private and civil institutions while embracing emerging technology and ensuring safety and providing jobs.**
Group 7
If we get the balance right of the presence of emerging technologies in our city, and **equity, public value, and nimble regulations** the ideal outcome is if we get the balance of the presence of technologies in our city and **equity, public value and nimble regulations,** the ideal outcome is **that emerging technology improves the quality of live through dynamic collaborations.**
Group 8
If we get the balance right of the presence of emerging technologies in our city, and **safety and security, public value (public for all public good), equality and accessibility, and privacy,** the ideal outcome is that **emerging technology will work for people and benefit the broader San Francisco community, with promoting innovation.**
Group 9
If we get the balance right of the presence of emerging technologies in our city, and **public value, equity, and accessibility,** the ideal outcome is **a livable, safe, and secure city where everyone's quality of life is improved, and diversity is sustainable.**
Group 10

If we get the balance right of the presence of emerging technologies in our city, and **accessibility, nimble and responsive regulations, and the safety needs of convenience of humans** the ideal outcome is **infrastructure and technology that caters to the needs of everyone and businesses who live and visit here.**

c) Potential issues or hurdles to achieving the ideal outcomes.

JULY 9 OPEN WORKING GROUP POTENTIAL PROBLEMS OR HURDLES				
Group 1	Group 2	Group 3	Group 4	Group 5

● Bureaucracy
  ○ Special interest
  ○ Ego
  ○ Gov slow, Biz fast
  ○ How to lead in innovation
● Capacity – Gov side
  ○ Resources, staff expensive
● Competing interest and needs
  ○ Makes gov slow
● Modern tech
● Policy chooses winner vs. losers
  ○ Prioritization
● Limited resources in public space
● Who makes decisions?
● Commoditization of public services
● Lack of awareness
  ○ Outreach confusing
  ○ Who to reach out?
  ○ How to engage
● Community engagement lacking
  ○ People first? Who is that?
● SF values/community constantly changing
● Mass exodus of long term residents
● Tech aversion – distrust of tech
  ○ Hot to focus on problem solving
● First to market philosophy
● To scale, need to work with gov to scale for community engagement
● Fear of overbearing policy
● Affordability
  ○ Cost of living
  ○ Displacement
  ○ Breaks trust
  ○ Gov not protecting residents
● Fear of change
● How to present vision and the potential
	● Politically driven vs data driven policy
	● Money management
	● Reactionary regulations
	● Over governance through bloated bureaucracy
	  ○ Complex graph of stakeholder
	● Lack of true public/private partnership
	● Lack of bipartisanship
	● Ballot box policymaking
	● Total failure of the City to leverage the innovative environment
	● Lack of infrastructure
		● Incoherent regulatory structure (ex. CPUC vs SF)
		● Secrecy of tech – proprietary info
		● City budget doesn't drive equity
		● T00 much optimism/pessimism
		● Emerging tech too broad
		  ○ Frame convo
		● Lack of articulated values
		● Lack of defined purposes
		● Profiteering $$ (venture capital)
			● Speed at which tech emerges
			● Regulatory process
			● Future planning/proofing
			● Ensuring tech matches need
			● Unintended consequences
			● Fear around adoption
			● PPP and job loss/training
			● Tech creating or widening digital/economic divide
			● Goals of City and comp may not be aligned
			● Community limited cap to engage stakeholder gap
			● Imperfection with inclusivity
			● Maintenance and upkeep not sustainable
			● Lack of consistent political leadership
			● Status quo bias
			● Financing / funding
			● Project follow through
				● Selfishness
				● Lack of communication and transparency
				● Rapacious capitalism
				● Outdated law – federal law
				● Rigidity of governance structure
				● Antagonistic culture
				● Complexity of urban environment
				● Cost of
				  ○ Regulation
				  ○ Compliance
				  ○ Implement
				● Misaligned incentives

• Lack of the big vision • Is gov asking the right questions • Need to localize policies				
Group 6	**Group 7**	**Group 8**	**Group 9**	**Group 10**

• Regulations: implementation of tech
• Lack of education of technology
• Tech arrogance
• No RFI, not communicating issues
• Tech solving the wrong problems
• Not taking inclusive approaches
• Lack of funds
• Procurement
• Analytic capacity
• Poor labor practices (private)
• Tech overhype
• Too much venture capital/communication
• SF political process
• Resistance to change
• Political disengagement: generational
	• Bureaucracy
	• $ money
	• Power dynamics
	• Poorly defined problems
	• Digital literacy
	• Community concerns
	• Intellectual property
	• Existing regulation
	• Local challenges
	• Profit motive
	• Existing infrastructure
	• Strictly enforced neutrality
	• Speed/development of new tech
	• Qualified expert staff
	• Lack of community involvement
	• Lack of incentives
	• Misunderstanding and fake news
		• Fear of change
		• City wide Wi-Fi
		• Cost
		• Access
		• Infrastructure limitations/ density
		• Silos – fragmented city government
		• Not so adaptable city functions
		• Public process
		• Timeliness of gov
		• Deep public engagement
		• Resistance to culture change
		• Pace of change
		• Ability to be proactive vs reactive
		• Protection/perception of ownership of public space
		• Concerns about safety, security and privacy
		• Continuity of energy, power, communications
		  ○ Overly reliant
		  ○ Resourcefulness
		  ○ Resiliency
			• Barriers to access
			• Surveillance economy
			• Consent (lack of, unclear)
			• Safety (physical and cyber)
			• Hard to define metrics for ideal outcome
			• Lack of existing regs and impact on public private partnerships
			• Bottom line focus of private companies
			• Vandalism
			• Increased congestion
				• Existing infrastructure
				• Perception of scarcity
				• Systems that crash
				• NIMBY's
				• Fear of change
				• Lack of communication (gov and corps and people)
				• Selfish/reckless misuse (people and corporation)
				• Limited public finance
				• Individual incomes
				• People can't access tech
				• Over regulation and mis-regulation
				• Political outreach

5. Next Steps
    - July 23 - Listening session II
    - August 17 - Launch subgroups
    - September 17 - Develop recommendations
    - November 5 - Final recommendations

    Other Methods for participation and input:
    - Pre- and post-session surveys
    - Written comment
    - Newsletters (sign up on website)
    - Website: EmergingTechsfgov.org
    - Email: emerging.tech@sfgov.org
    - Phone: 415-554-4577

Appendix 1

JULY 9 PRE-MEETING SURVEY

In your opinion, what is emerging technology?

Technology that has not been widely adopted and is being deployed and tested in some limited capacity
An innovative, hardware or software based service that has the promise to address social, urban or governmental challenges at a scale never previously considered, or with a tool never previously envisioned. While it's singular application may define the problem statement it's aiming to address -- the nascent nature of the technology means that the entirety of its use-case has yet to be full envisioned.
It's an adolescent tool that needs to grow up a little bit to realize its potential – and it needs to have that potential to warrant cultivation
Cellphone apps facilitating economic activity in legal grey zones
That which uses wireless control, navigation and transactions
Automation, online delivery/retail, online banking
any knew ideas or tools that can be used by people to better there lives. mostly on computers or smart phones but can be so much more i.e. atonimiss transpertation or apps or stand alone devices that perform a task
Use the updated technology methods to help to improve efficiency and effectiveness of the service delivery
New and innovative technology whcih has the potential to impact a large number of people.
Creating and adapting various technologies to improve the lives of San Francisco residence.
A new technology with potentially impactful implications for society (consumers, patients,..)
New technologies that are changing the way society works and is structured.
Technologies that are still in development, testing or piloting.
Emerging technology empowers people and democratizes access to services and information.
Emerging technologies are technologies that are capable of changing the status quo.
A new technology or one in development that in the next 5 years will have a measurable impact and has the potential to significantly alter the environment (social, physical, public space, business, commerce, communication, bio-tech, etc)
Technologies which may change the status quo
New technology that is still somewhat mysterious to many consumers.
Technologies that can change the status quo but are still being refined/tested
Technology that shows promise in advancing civic, business, social, scientific, medical, etc. issues in society.
Startups (for the purposes of city government, I think the new technologies are less important than the new business models created by technology startups...which might not use any particularly new or innovative technology)
technology enabled tools and services that are enabled by adoption.
Emerging technologies are those technical innovations which represent progressive developments within a field for competitive advantage

New innovations in transportation that impact urban mobility.
Technology that has either just left the prototype stage, or if being applied in a new way.
A wide range of new advances that tend to be designed to change the status quo - hopeful to improve people's quality of life. Sometimes, however, can have a negative, uneven benefit.
Emerging technology is technology that is moving from the development stage to application stage. In this context though, I feel it is technology that has the potential to disrupt the market, but has not been tested at market scale yet.
New innovations using current, new technology to deliver a better integrated,measurable and accessible services for all the residents of the city.
Venture capital-funded systems for addressing new or newly-identified problems, generally geared toward eliminating inefficiencies.
technology that changes the way we conduct our business, personal and community lives
Globally: AI
Untested or new technologies for mobility, communication, etc
Technology that has been developed and used in specialized settings (e.g. the military) that is crossing the threshold to general use (e.g. drones).
Emerging technology is technology for which the vast majority of its immediate potential has yet to be explored - it's early in its development and refinement and/or its yet-to-be explored societal applications stand to be extremely impactful.
Emerging technology is a new technology or usage model of an existing technology designed to address an existing challenge or shortcoming in the system.
technology that changes what we do and how we do it
Emerging technologies are technologies that are perceived as capable of changing the status quo.
Communication, collaboration, and information access tools that are easy to use from mulitple platforms.
Previous technology that is being innovated in a way that has not been seen before, or new technologies that are being created. A technology that still has many unknowns(regulations, externalities, etc).
new technologies which have impacts that we are only starting to understand
Technology in the infancy stage that has potential for rapid growth and impact on people's lives
a method or technique (often realized via digital/internetworked systems in combination with existing methods / techniques / systems) developed or adapted to support a novel purpose
A technology that has the great potential to make a transformative impact in society. During the early emerging stages, there are periods of exploration that are needed to truly understand the opportunities, impacts, and benefits.
The application of newly learned scientific knowledge; or the application of known scientific knowledge in a new or different way than it has been applied in the past.
Unprecedented technology capabilities to deliver new applications
new technology that help solve government/city challenges
Any hardware, software or tool that has started altering the way services, products, processes or problems are addressed.

What is an example of emerging technology?

Automated vehicles
Big Data Analytics for Policing; Robotic Rovers on the sidewalk for mapping curb space, offering 311-like support, delivering goods; autonomous vehicles; etc.
Machine learning
Airbnb, shared dockless vehicles, sensors
Autonomous vehicles, electric scooters, keyless controls.
Amazon acquisition of Whole Foods, autonomous delivery robots
electronict personal assistens
311 app
Driverless Cars
Accessible Pedestrian Signals
LIDAR Technology for navigation
Autonomous vehicles
Autonomous Vehicles
Autonomous robots and cars.
Robotics
the launching of e-scooters in SF
The automobile. Mobile phones. Bicycles. Solar panels. Fast internet.
drones, ride sharing services, social media
AV and dockless bike share
Autonomous vehicles
e-scooters
smart home devices
AI, 3D Printing, Robotics, Sensors
Autonomous vehicles, micro mobility (scooters, etc.)
Self driving cars, AI
Artificial intelligence, 3 d printers, nanotechnology
Blockchain, human body communications, digital twins
Shared services and goods marketplace apps is a great example of how emerging technologies can maximize benefits for everyone.
Sidewalk delivery robots, electric scooters, facial recognition
Einstein program in Salesforce
electric skateboards, google glasses, hoverboards...
Artificial technology
self-driving cars
civic technology
Shared mobility, such as TNCs, dockless bike and scooter sharing, and autonomous vehicles of all sizes.
remote home safety, ride apps, food apps,
Emerging technologies that are affecting small business and the neighborhood merchant corridors include Google, Facebook, Instagram, Yelp, Lyft, Airbnb, Caviar, Uber Eats etc

Internet Access as easy and reliable as dial tone.
The use of self driving cars
software/operating systems specifically tailored for different types of work
blockchain
shared electric scooterboard services -- the scooterboards themselves are not very different from 20th century stand-up skateboards, but operators like Bird and Spin leverage evolved tech elements (GPS & electrical storage and locomotion & remote governor systems) and the service control system leverages personal internetworked gizmos (phones & tablets) for operations / billing / support
Integration of mobile robots and autonomous vehicles into daily life
So many things! Using sensors and digital processes that allow people to gain access to things after a series of approvals (carsharing, bikesharing, scootersharing, etc.); using metal organic frameworks to pull water from dry air (http://news.berkeley.edu/2017/04/13/device-pulls-water-from-dry-air-powered-only-by-the-sun/)
Artificial intelligence
multi-mode digital sensors to help manage curb and public space, emerging mobility
E-cigarettes, commercial drones, shared ebikes...

Technology can have a positive impact on my community.

Scale	1	2	3	4	5	6	7
# of Respondents	0	0	0	3	9	13	24

Please share a story of how a technology has affected your life.

Emerging technologies have made it easier for me to save time, do collaborative work, and more efficiently get work done so that I can have more time for the other aspects of life.
Last-mile transportation & the transformation of commerce through app-based technologies have changed how urban dwellers move around or access good.
When I was 23 I had an internship in San Mateo and drove accross the Bay Bridge from Berkelel 5 days a week so that I could sit at a desk and call people on the phone to ask them if they wanted to come to the now defunct Invision conference in San Francisco. I do similar work now, but sales automation software, Zoom Webcam VOIP calls, and high-speed Internet haved obviated the need to burn fossil fuels and waste my life sitting in traffic on the Bay Bridge 5 days a week. Not only that, but I use machine learning algorithms to improve my effectiveness when performing similar tasks.
I don't own a car. Ride share has made it easier to get around to areas not well-served by transit.
Self-driving cars have the ability to save lives, reduce congestion, and help the State of California reach its rigorous GHG emission reduction goals.
Using GPS to navigate even in the country in Australia, transmitting of emails and photos from beyond UlanBaator, Mongolia. Finding my phone over my computer.
pressure of adopting online business models without tech support and vetting of companies for small businesses. Regulations placed on brick and mortars not equally applied to online retail.
ride sharing has made it so i can travel to more places effectively
Access of information, outreach strategies and data collection
I can now attend meetings or trainings on line without having travel.
Accessible pedestrian signals. It has made a huge difference in how blind and visually impaired people travel safely.
Mobile streaming video connects me with friends and family around the world.

Being able to take photos of checks to deposit them online is amazing and convenient.
Zipcar enables me to live a car-lite life, providing me access to vehicles when I need them, on demand.
Without technology I would not have been able to learn how to work, how to code, how to build art,.. technology has democratized access to education and makes me yearn to learn more all the time.
The advent of online retail has allowed me to be more efficient with my time, allowing for more focused leisure time.
GPS has allowed me to travel confidently in unfamiliar areas and countries. Also the communication apps have allowed me to keep in touch with people in other countries at an affordable to no cost
I'm alive today due to emerging technologies. We all benefit from them. Medicines which make us safer and healthier, cleaner water, cleaner air.
The availability/ease of accessing Zipcars in San Francisco has saved me on multiple occasions when I would have otherwise have been stranded (i.e. I usually take BART to work and there have been a few times I had to pick up one of my kids from school when they were sick). On the flip side, the influx of ridehailing drivers in SF have made streets less safe than ever before as a direct result of the habitual stopping to pick-up/drop-off passengers in the middle of the street and drivers paying attention to GPS only, instead of traffic signals, pedestrians, bikers, etc.
Smart phones, tablets and laptops have made it possible for me to work more flexibly and efficiently, share information more easily, and have quick and easy contact with the medical system, retailers, etc.
I teach urban innovation at the Berkeley Haas School of Business, advise civic tech companies, started the public policy team at Airbnb.
I never need to worry about being locked out of my place or leaving a device or light on.
Solved work and process problem of visitor management and office security with Pepper - humanoid robot.
TNCs (Uber and Lyft) have dramatically changed how San Franciscans get around. For people who bike, the consequences have been largely negative, especially in terms of safety and congestion.
Google Maps on a smartphone dramatically improved my traveling experience. Ten years ago I had to spend hours preparing and print out paper maps, and I still got lost occasionally. Now I never get lost, always find the right bus stop, and really discover cool neighborhood shops no matter where I am.
I use technological applications in everyday life and especially at work. There are many automated processes I use from using AI to find a calendar spot to respondable to figure out when someone will respond to my emails. All in all, technology has made it easier and more efficient to do mundane tasks, freeing up time for strategic ones.
We use an app for all client engagements through mass web texting, document sharing etc and it has substantially enhanced the client engagement.
Because of Uber/Lyft/JUMP bikes I got rid of my car and now use sustainable sources of transportation
Allowed me to make differences in how I do my work. Computing and tracking transactional work to free me up to do more transformational work. Personally: I eat better as I can get more options of meals through my phone.
Has helped in accessibility
Over time, the proliferation of communication via email and text, enabled by ubiquitous connectivity has placed me in a work context that expects 24x7 access, response and effort. In addition, the "free" email services are "following" my actions and using my data; my privacy and agency have been compromised. It's a double-edged sword--good things and bad things. We need to think more thoroughly about the consequences that come with benefits.
I've used an app on my smart phone to have conversations with people with whom I didn't share a common language.
I am connected 24/7 with social media to friends, families, enemies, other places, other socieites
Accessibility and instant gratification are some key benefits to many emerging technologies. As a

business owner, I'm able to curate my brand and make myself more accessible and relatable to the end user.
Accessing information and communicating with friends/family quickly with minimal effort using intuitive interfaces.
Technology has allowed me to stay more connected with family in different cities.
Google docs changed the way that I write and did assignments with groups and personally in college.
My current job is to identify, develop and implement job training programs for occupations requiring technical skills so I need to stay informed and aware of the technology sector and impacts on the labor market.
the iPhone app FindFriends allows my wife and me to keep track of where the other one is (as with many cases of personal internetworked data sharing, this miracle has downsides as well as upsides, but I'm comfortable sharing a beacon with my wife!)
I am inspired everyday by individuals that are implementing robotics into society. I share the stories with my children and I see the excitement in their faces when they interact with robots and hear of stories of robotics making an impact. Their excitement keeps me motivated and inspired to promote STEM/STEAM and the robotics industry.
Technology allows me to conceptualize and recreate my thoughts and feelings, outside of my head, and enables me to share and communicate my thoughts to others. Technology also has allowed me to see and perceive the thoughts and perspectives of other people.
GTFS has enabled development of third-part mobility services and apps that provide a more efficient way for all community members to plan trips and travel.
I've cut my ridehail expenses by $200/month thanks to the bikeshare program

What values should the City prioritize when considering emerging technologies? Please select up to 5 values.

Value	# of Respondents
Accessibility	30
Collaboration	27
Accountability	20
Security	16
Efficiency	19
Ethics	17
Equity	27
Labor Standards + Fair Wages	6
Privacy	15
Public Safety	26
Sustainability	20
Data Sharing	1
Street Design	1

Quicker adoption	1

What opportunities or benefits do you see with emerging technologies?

Private/public partnerships, data driven solutions to difficult policy problems, greater responsiveness
Efficiency, transparency, and increased access to resources
Reduction in vehicle trips, new economic opportunities, improved services
Save lives, reduce congestion, promote efficiency, complement public transit needs, GHG emissions reductions.
Reducing congestion on roads and use of paper doncumentation. Also security.
helping transition traditional business into new markets, streamline bureaucracy
if we think of creating new tools and ideas in a more inclusive way we can fix the barears that every day people have but if we only think of the standered user we fail in serving all users
Collaboration of community service partners
Increase efficiency
Collaborative efforts among many various interests of groups to create something that can benefit everyone.
Potential to advance society.
Not sure. Convenience seems to be the main benefit, but I don't think that's an important enough value to prioritize these technologies. Autonomous vehicles promise safety -- but for whom? The people in the vehicle or outside of the vehicle? And who will be using these vehicles -- just affluent folks? And what does it do to our land use and sense of place if we center our transportation system around small vehicles?
Equitable access, sustainability, increasing safety.
The power to democratize access to services and products that were previously considered a luxury.
Emerging technology can improve people's lives in many ways. Technological advancements can help people complete tasks more efficiently, keep them safer and healthier and also protect the environment.
Efficiencies to support better identification of issues and facilitate improved services and processes for residents, opportunities for accessibility for vulnerable communities, public/private partnerships, data-sharing
Healthier people, happier lives, cleaner environments, less car dependence,
Safety and collaboration should be the most important values that emerging technologies prioritize.
Ways to ensure that no person is isolated, left behind in the SF economy or unable to access tools that are dependent on being able to afford them. As SF should, it is moving toward becoming more efficient through technology, but city residents must be able to take advantage of technology changes.
Can more quickly respond to citizen needs
curbing emissions. improving mobility. improving public safety.
Cost savings, improved service delivery, economic development
Increased safety on our streets due to reduction in traffic collisions.
Emerging technologies solve problems we've been blind to because we didn't know there was a better way. Most new technologies raise the standard of living, build better communities, and help people get what they need while spending less money and time.
Some emerging technologies, if available in a more equitable way, can improve quality of life, compensate for disabilities, reduce loneliness and isolation, improve health and well-being.
Accessibility of services to all, convenience and safety, transparency
City needs emerging technologies to integrate and benefit from all small to large stakeholders (private sector to government agencies) to maximize the benefits to all citizens.
Filling actual gaps in public service that are demonstrably infeasible for governments to provide
Allowing for a better quality of life.

If deployed appropriately into the existing city context they could help us achieve our climate and sustainability goals in a fair, inclusive and equitable manner.
More efficiency
I think technology has tremendous potential to provide accessibility to information and services to all. This would be a huge benefit to individuals and society. Democracy depends on an informed citizenry, participating.
They have the ability to rapidly improve situations in ways that good strategy, clear logistics, and efficient administration cannot.
Improving urban mobility and non-single occupant vehicle (SOV) transportation options that are sustainable and active.
Bridge opportunity gap between low income young adults
Many legacy businesses need assistance in learning how to leverage the digital tools these emerging technologies offer.
Continuing to provide inexpensive Internet access solutions for the community.
There are a lot of technologies that would benefit the City. Many of these companies want to collaborate. These are opportunities for the City, its residents, and those that work within the city.
streamlined collaboration through multiple organizations and languages
Increased efficiencies in completing tasks. New occupations to train and educate individuals in.
easier and more convenient access to information and services
Increase accessibility, safety transportation and mobility options, and the ability to receive goods more efficiently and reliably
The opportunity to create less waste; lessen the poverty gap; implement a standard quality of life; create access to basic resources for all people in a given region (water, shelter, food); and address challenges like traffic management
The potential to provide new capabilities that meet unmet needs or improve upon existing capabilities
potential to bring govt services into digital age, streamline antiquated processes
Saving the public sector capital, proving them with proprietary data and a way for them to experiment in a controlled and efficient way

What issues or concerns do you have about emerging technologies?

Inequity, lack of access
That entire industries get punished because some actors choose not to work w/ Cities at the outset.
That they are too complex to be regulated by ethical public policy
lack of oversight. lack of accountability by industry for externalizes, eroding support for public services like transit, elite projection
Patchwork regulations or those that push a service out of the market before it can firmly establish its benefits to San Francisco.
Hacking and identity stealing
policy is always playing catch up and than taking extreme measures to overcompensate. equal protection violations as taxes, fees, and regulations not equally applied to online realm. Technology (retail, etc.) often consumer focused not producer focused and does not know how to work with existing businesses, etc.
to many people do not think inclusivly we need to give inventors guidelines on how to include all types of abilitys and skills
Equity access of the underserved population
Public Safety
Potential bureaucratic due-process that hinders and/or derails progress and/or innovation.
Unintended consequences e.g. use of technologies for terrorism.
I'm concerned about the public right of way being used for private gain. I'm concerned about how these technologies

will affect the accessibility and safety of our streets and sidewalks for pedestrians.
Balancing public policy goals with public pricing targets. Ensuring appropriate partnerships between the private and public sectors.
It's important to understand how to mesh seamlessly within the fabric of our communities, of our day to day lives. Emerging technologies should empower people, not the other way around.
I am generally optimistic about emerging technologies; however, there is always the concern of automating workforces and depriving people of their jobs.
The launching of a technology on public infrastructure without notice, permission or process. Technology prioritized for the benefit of the few. Short-term / short-sighted benefit impacting public infrastructure and residents. Inequitable public/private partnerships. Loss of privacy and non-secured collection of data by start-ups without proper infrastructure in place to ensure privacy and secured collection of data.
I'm worried the city will slow down adoption or limit the positive effects of emerging technologies. For example, SFMTA capping ebikes at 250 was a bad decision because it restricts the emerging technology of ebikes which can clean our air, improve public safety, and boost the economy.
TNCs have made San Francisco streets an unsafe "free for all" where stop lights, crosswalks and one-way streets don't protect passengers and pedestrians any longer
Ensuring that the voice of consumers - of all ages, abilities, ethnicities and income levels - is consistently included in planning and implementing emerging technologies.
Lack of accountability
waste. social disconnection. inequity.
Ensuring public benefit, Risk of unintended consequences
I worry about the impact of autonomous vehicles on equitable access to transportation choices and the deterioration of civic space.
Externalities must be priced correctly
That they will continue to widen the digital divide, especially for those that are older, communities of color, those who are low income or have disabilities.
access to data that should not be shared, privacy issues, parity issues related to livability
Getting the buyin from community as politics in the city makes it difficult at times.
I generally fear that the drive for creation and acquisition of capital and the consequent tendency toward lucrative vertical integration creates an incentive to innovate that does a poor job of thoroughly anticipating various harms to the public - e.g., the duplication of existing public goods and services, the disruption of "inefficient" systems that are inefficient by virtue of their reliance on human labor
The city is so negatively reactionary to new technology that they invite a forgiveness not permission strategy. For example, if the e-scooter companies had waited to launch until SF had a permit process, it would have taken years. By launching, while upsetting to many, they forced the city to move quickly and the end result will be a better system for everyone.
Accessibility (financially and in design)
That they are driven by economics almost solely, and while the intent might be to support the values and vision of the city in the end the developers want to rapidly test, scale, and then sell.
no Issues as long as it works with business and the private sector
Profit motive, replacing workers with technology and adding to the number who are unemployed. Expecting people to adapt to technology rather than adapting the tech to people (e.g. drones and self-driving vehicles affecting pedestrians)
The aforementioned benefit doesn't make it an actual replacement for good strategy, clear logistics, or efficient administration. It also seems a lot more possible for the technology to be adopted like a fad - taken up on a whim, misapplied, and/or not given the follow-through it would require to be of real benefit.
Many companies focus solely on initial growth over any business model sensibility.
access for low income communities and young adults
Many emerging technologies want to engage the small business community but there isn’t an efficient way to engage

them.
Cost to deliver may be prohibitive.
Iteration is fast and there may be unintended consequences because ideas/feedback was not garnered from a diverse group. There may be growing pains as emerging technologies are being adopted.
exploitation of consumer data and privacy
How do we ensure people who aren't as knowledgeable get access to the information so that they understand the potential impact on their lives and how to prepare for it.
equitable and affordable access to information and services
My biggest concern is for individuals that fear technologies. It's understandable, however there must be a commitment to educate and ease concerns and fears to experience the true benefits.
I'm concerned that business models and the pursuit of profit will take priority over design, accessibility, and sustainability of products, services and processes for implementing and maintaining emerging technologies.
Regulation and market mechanisms tend to lag technology applications
going with the latest trend/start up without doing due diligence research of product, contract negotiating for good evaluation (data) and maintenance of product
Private players don’t self-police typically and they rarely internalize the negative externalities of their offerings until forced to or shamed into it.

The City knows how to address problems with emerging technologies.

Scale	1	2	3	4	5	6	7
# of Respondents	4	11	10	19	3	1	0

What should the City do to make sure new technologies support San Francisco values?

Collaboration with the developers of emerging technologies.
Find ways to encourage their adoption and spread in san francisco, while ensuring they do not make the public less safe.
In many cases, local regulation is hampered by state-level jurisdiction. In the case of transportation, San Francisco may most effectively be able to anticipate and regulate emerging mobility technologies through infrastructure and street design that prioritizes transit, biking and walking.
Establish an ethos of "agile regulation" - meaning establish a process by which established public policy officials (from the private sector) meet regularly with designated city officials (representing DPW, OEWD, DOT, and the Mayor's front office) to discuss (1) the state of the art of different tech that may be introduced at the city level; (2) the governmental agencies of interest; and (3) a real-time ability to inform codified/passed regulations with updates around use of the tech & data, so as to keep the reg's more iterative, and flex to the broader dynamics at play within a community.
come up with inclusive guidelines like this product must be usable by all rresdence even though with disability
Community input and innovation
Regulate them!!!
The MTA has done a pretty good job with the e-scooter permit application. Requires things like local hire, but sets reasonable expectations that small startups can meet. Might look at that for inspiration.
Mostly get out of the way. This is best exemplified by the scooter hysteria. This is a great new technology and the city's reaction has been way too authoritarian and conservative. Let new companies operate with reasonable regulations, not with knee-jerk heavy handed rules.
Tech needs to be equitable, sustainable and there has to be enough information to go around to make sure it can be regulated (months before it can be deployed).

Insulate the public from the potential for harm through strict, objective regulation based on a thorough understanding of emerging technology, the function of markets, and a premium placed on public safety, privacy, labor, accountability, and equity. Acknowledge and honor innovation that comes from existing communities. Let communities identify problems, leverage the voice of communities in the solutions to those problems, and allow existing communities to share in any profits generated from resulting technology. Discourage monopolies. Bottom up innovation.
Remember that each emerging technology can't solve every single challenge facing the City and therefore avoid piling on as many regulatory requirements as possible until the technologies and their business models can't succeed. Use more carrots than sticks to enable and promote the benefits you most desire.
We need a long to vision to support the engagement of the small business community and the emerging technologies which can assist them.
Invest in smart, holistic permitting frameworks and team that leverage the top talent from the public sector combined with private sector and academic guidance as well as national and international best practices.
Assess needs of existing stakeholders in SF, allow innovation and encourage self -regulation and compromise
Create the mechanisms (statute, legal, governance,...) to ensure SF fosters new technologies and their uses for the benefit of San Franciscans.
Develop a clear and concise process to approve any technologies that are interested in operating on public infrastructure.
public declaration of values. codes of conduct. testing zones for new technology.
Design a solution on 5 values marked above.
Have the values clearly articulated and require applicants for permits to respond to how they comply with them. Require applicants to address expectations for the technology in 5 years (one drone likely is not a problem, hundreds could be...). Applicant must explain the benefit/need for the technology for the citizens of SF (not just their profit margin). Applicants explain safeguards and how they will address/remunerate if there is a problem.
Create open forums and discussions for ongoing
Make sure that businesses know what those values are.
place restrictions on data collection and privacy
Encourage collaboration and pilot projects, and work with tech partners to facilitate growth.
What's needed is a flexible permitting framework that allows that allows the City and Industry to co-learn together how best to regulate emergent technologies.
Collaborate on shared priorities. Specifically for self-driving vehicles, opportunities exist around Vision Zero and Transit First!
Engaging with technilogy companies and collaboration with businesses
Include public comment and participation.
Fast and efficient processes that address concerns for all interested groups and offers fair solutions without any discrimination.
Put partnership, collaboration, and sharing first.
Make it easier to build and test these technologies
Demand collaboration and sharing as minimum requirements for any emerging mobility/technology provider to operate in SF.
1) Define the values. 2) Design a "scorecard" that measures progress against the values as new technologies move forward. 3) Provide scorecard guidelines that ensure new technologies are objectively evaluated.
Build an inclusive process
Expand the role of COIT beyond that of a "capital committee" to address some of these issues, or create a more broad-based body including a broader set of stakeholders with access to expertise and resources to shape a more thoughtful, inclusive approach to planning that can address some of these issues, in both a short-term and long-term way.
Workgroups and input from all communities especially those impacted by disability and poverty

Have a clear and transparent process that 1) defines what an emerging technology is, 2) the principles it should follow to support SF values and vision and 3) a method to either incentivize, require, or enforce behavior to align the technology with the values and vision.
Include San Francisco values and support small business
Develop strong collaboration and channels of communication between tech industry and the City.
first we'll need to agree on the meaning of "San Francisco values"
1. Define San Francisco values and document them. 2. Figure out a way to efficiently and clearly communicate prospective emerging technologies between and across departments. 3. Include a variety of subject matter experts in the conversation (leadership/strategy setters, IT, maintenance staff, financial staff, etc.) 4. Figure out a way to keep the public informed and maybe support these efforts. 5. Filter all new proposed emerging technologies through the established values for San Francisco. 6. Figure out a way to prioritize the order of technologies that are adopted. 7. Partner with other jurisdictions to share this process and help them create their own. 8. Build bargaining power across jurisdictions to bargain for these values to be built into the products that are available for governments to purchase.
Be inclusive and ensure that all applications promote equity and sustainability
I'm honestly not sure what the city should do yet.
Don't buy it if it doesn't...
Continue to communicate the values so technologist know what the SF needs for emerging technologies. Having a dialogue with innovators to provide insight into what problems needs to be solved can ensure tech meets the values of San Francisco
Provide technology solutions equitably across the City.
Ensure that its overall effects are democratizing ones. Also, ensure that any line about "including all stakeholders" in planning processes etc. aren't mere platitudes.

JULY 9 POST-MEETING SURVEY

How would you rate the meeting's success?

Scale	1	2	3	4	5	6	7
# of Respondents	0	0	0	1	4	5	5

What worked?

Bringing different people from different interests group into the same room.
Small groups, reporting, benefits pre populated
The structure of the workshop. It was very clear and well organized
The breakout sessions were effective.
Very structured steps- moderator was great
Competent facilitator, good pacing.
Breaking up into groups
the pacing, the discipline, the diversity of participants, great facilitation
Small group discussions, would like to see the outcome of those report outs shared with the entire group.
Small group conversations
Facilitator was great, exercise effective
smaller groups. Great to have input and see the variety of perspectives.
Prepared structure, meaningful questions/sequence, small groups each with a skilled facilitator/recorder. Lorna Shepherd was an excellent facilitator, well-prepared to lead the session and wrangle the herd of cats. I also liked

taking out the "overhead" of small groups sitting.
The workshop was very well organized, the discourse that we had was incredibly beneficial and insightful
Being able to provide lots of input. Very efficient process!

For future meetings, how could we improve?

I realized this is the first meeting and there is a need to methodically bring such a diverse group of people together. I hope the next steps will bring more solution-oriented actions so there would be tangible results. Lastly, there is a need to consider people with disabilities and accommodations. It would be benefiticial if the materials given to everyone is also in other accessible formats.
Have a mix of for profit, non profit, govt, resident in one group. I felt the for profit groups were well represented and so had a dominant voice (which is fair by the rules of engagement), but have a diverse group might have helped dull some of their very transparent agenda.
It was not provocative. I didn't learn anything new. I wasn't forced to see something in a new way, from a new perspective. All the answers were very similar because we weren't challenged. Perhaps it would be good to present some different scenarios and have us react to them. Something that gets us thinking and making trade offs.
The discussion topics were a bit broad and it was a difficult to reach consensus with a group of varied stakeholders.
Separate attendee groups by topic interest (transportation, payment, etc)
More comfortable chairs!
Apparently the City is employing Accella to install an integrated system for all the city departments so consider having them present with one person for each group.
I think you need to define the scope a little better - is this driven by the discussion about autonomous or other vehicles like the bikes and scooters or is it as broad as everything in the realm of emerging technology
It's difficult to get into the nitty gritty issues in a more broad discussion format would be good to try to figure out a way for those present to bring up details and examples of their concerns. Maybe this can happen in a future small group discussion.
Attempt to balance the small groups based upon who is in attendance/who they represent versus by chair
Define emerging technology.
Better space. Felt cramped and loud hard to hear.
Getting attendees to open seats toward the front of the room. A little more space for the small groups to work. It got pretty loud and hard to hear in the small groups...
I think it would be awesome if we could get a list of participants
No suggestions

Is there anything that wasn't discussed in the meeting that you would like to share?

There is a lot of research on the negative health impacts of some tech. But just as the tech itself is emerging, so are the studies (albeit much later). We need to have a forum to address health concerns, be it acute issues or chronic, and I feel there is no one department or body that is in charge, knowledgeable or in the loop on this one. So if the working group can tease out some of that, it can start the dialog in the least.
Nope. You covered it all.
Set firmer boundaries on what constitutes emerging tech - our group tended to wander into tangential subjects. A clearer understanding of the deliverables for the December report and what will be done with it once delivered.
The impact of technology on small business and test driving of proposed systems.
Great discussion for the time allowed.
see above
No
I really enjoyed the guided exercise. nothing more i can add

Not that I think of...
Not at this time