Appendix 3: Future Design Workshop Model Paper Data

Energy A

- **March 30 (Main opinions as present-day person)**

Suita city in 2050

- Increase the number of daycare centers to create an environment where women can comfortably work.
- Development of regional centers and areas (compact cities) that integrate functions (e.g., hospitals, nursery schools).
- Maintenance of public transportation.
- Renewal of old infrastructure and aesthetics (underground placement of electric wires), maintenance of each area (compact cities).
- Driving car, AI and robots, working from home => changes in working style.
- Maintenance (greening) of former factory sites so that factories become unnecessary (i.e., with AI and robots), abandon legacies of old things (Expo Parks).
- Done in ways to minimize costs.
- Not only pursuing convenience, but also culture (cherry blossom viewing, autumn foliage). Abandon legacies of old things (Expo Parks).
- In-home medical care.
- Impact on education (relationships with people also needed). Human aspects. Maintenance for each area (compact cities).
- Existence like a local tobacco shop.
- Local production from renewable energy for local consumption.
- Space solar power generation.
- Car traffic zoning.
- Car sharing. Personal ownership of cars will be reduced.
- Global warming: become aware of future impact, and promote awareness in each individual person. Provide accurate information. Announce power conservation requests to citizens (appropriate air conditioning temperature). Visualization of effects.

Evaluation and opinions on Basic Plan

- Visualization of effects of greenhouse gas reduction (carbon pricing implemented in city) <= voluntary efforts of citizens are important.
- Set targets for introducing renewable energy (local production for local consumption).
- Is “[not letting things go to waste]+[fun]” not feasible? Visualization of energy conservation effects => Awareness of “cool”, “x stingy”.
- Experience creating electricity.
- Insulating housing is a burden for individuals and is difficult => Ordinances and subsidies are required. Benefits such as an environmental tax credit. Criteria setting.

- Is promotion of lifestyle changes a prerequisite?
- What is a “co-benefit”?
- Voluntary efforts of citizens are important.
- Economic incentives.
- Not only local production for local consumption but wide-area collaboration.
-“City initiatives”
- Does the awareness of “not letting things go to waste” decrease when energy conservation (education is necessary) is introduced (becomes like water).
- How to increase the value of energy-conservation lifestyle.
- Experience of planned power outage => raise awareness of power conservation.
- City that is resilient to water, gas, and power outages due to disasters such as the Nankai Trough earthquake. => Greater sense of crisis than “global warming”. Becomes a “personal matter”. Needed alongside “fun”.
- Preparation of disaster prevention goods.
- Does Suita city not aimed for RE100? Only businesses?
- Planning a fun event that does not require electricity (de-electrification, de-carbonization)."

- **April 13 (Main opinions as future person)**

Comments on past policies

- I thought it would be troublesome to sort, but thinking back, I'm glad I did it.
- It doesn't work if there are people who think it's someone else's problem. Some people don't follow the rules. Changing people's awareness is necessary. => It would have been nice if those kinds of measures and fines existed.
- I am grateful for the free waste collection. There is no fee for oversize waste. This is thanks to the maintenance of the recycling center. Is it the shadow effect of making the waste bags transparent? => I want to know the reasons for reducing the amount of waste. I would like an analysis.
- Is the ""classification of 5 types"" ambiguous? Invisible costs. Easy, make stricter. Garbage increases and someone bears the burden. Needs ""pain".
- Sorting has not progressed since 1992. Other cities are more advanced. Moriguchi City is strict (paper). If the sorting is strictly different, it will not be collected. <= Is this due to the fact that the performance of the disposal site in Suita city is good?
- Plastic shopping bag reduction measures should have been implemented earlier => Put a poster inside the supermarket. You can receive tissues from Kansai supermarkets when recycling. There are places where supermarket points are attached.
- If you can't see why you're doing it, it won't take root.

Social situation of Suita city in 2050

- Richness of the mind (diversification of values/self-actualization) is more important (like in Northern Europe in 2020).

- Robots are active in various fields => People are not working => Human work is reduced => Doing things that people cannot do (due to old age, etc.).
- Self-sufficiency. The work of young people is also reduced => Work at home => Take good care of family.
- Jobs for managing robots.
- IT-related work.
- Fewer opportunities to meet people.
- What the job of Kuroo? => Work that impresses people. => Taxis (coordinator).
- Doctor, medical researcher. Treat with IPS cells, etc.
- No need for money (Bartering. "Likes". Experiences)
- Exchange of people across national borders.
- Typhoon power generation, typhoon course change => Natural disaster energy <= Use of seismic energy.
- Aerial transportation network => Railroads and roads will decrease => Greening.
- Same living experience anywhere due to the development of transportation and communication.
- Measures are needed to have people live in Suita city <= What does it mean to live in Suita city? Shirahama is popular.
- New things do not increase. Nothing left behind <= Digitization.

Environmental situation of Suita city in 2050

- Increased surplus land, so wind power and solar power generation increase. => City energy self-sufficiency => electricity bill goes down => electricity bill is zero. => Energy conservation unnecessary => Electric vehicles.
- Stores not open at night. Energy conservation of equipment => Energy consumption is reduced <= Water supply and wasteful water use are reduced <= Since maintenance of water pipes is required, the water bill will increase <= Rainwater used.
- Food.
- PV panel alloy-free.
- Development of communication and transportation => Buy only the amount of ingredients needed => Reduce garbage <= Materials that naturally return to the soil.
- Cooking automation.
- Generalization of agriculture under solar panels.
- Disposal site that can dispose of any garbage => Energy and resource recovery.
- Elderly people who cannot keep up with IT still remain.
- Disparities continue to increase.
- Benefits for living in Suita City. Event planning => Receive "Likes".
- Universities and research institutes.

What should have been considered as a plan/measure in 2019

- High goals for renewable energy.
- Power grid maintenance.

- Environmental policies that attract people <= Insulated house (live in 30-year homes as is) <= Landscape (sense of unity), Exterior walls, lighting...
- Citizen participation in environmental town development fund.
- Environmental event will be held at the Suita City Expo Park to coincide with the 2025 Osaka Expo.
- Not leaving the elderly behind. IT training event (there are many people who cannot master the use of smartphones in 2019) => Eliminate disparities.
- It took time to achieve 100% recycling of waste. Verification and analysis were necessary.
- How to get others convinced (dissemination => homepage, video that you want to see. Event), feedback of the result of the measure.
- Education in elementary and junior high schools => Eliminate disparities.
- Senior environmental university (there was a 2000 version).
- Drainage system that can handle sudden heavy rains (crisis management).
- Election system (volunteer-type).
- Allocation and balance with the budget for 2019.
- Set a budget frame for the future.
- Incentives: name appears as credit for event when participating in operation. PV introduction assistance.
- Declining birthrate => Consolidation of elementary and junior high schools => Longer commuting distance.
- Child (junior high school) entrepreneurship <= Creating a system to support elderly people.
- Create a budget for the future that is not short-sighted (about 5%?). Have the citizens understand.
- Tax.

Energy B

- **March 30 (Main opinions as present-day person)**

Suita city in 2050

- Urban industry: Sharing (cars, inns). Companies are trying to reduce the amount of waste by stopping over-packaging <= Corporate culture. Change from the current situation => Collaboration between industry, government, academia, and citizens. Wide sidewalks => Infrastructure development. Increased use of public transportation. Review of bus use (course, time, route). Regeneration of existing residential areas (increased vacant houses) => Increase greenery. Use.
- Currently, the number of elementary school students is increasing. Review the population distribution.
- Planned bus operation linked to the structure of city => Regenerated energy bus, electric bus, hybrid, CO2 reduction => Small shared microbus, network bus ↔ Drop-off, electric bike.
- Measures against summer heat => Innovations to increase greenery such as rooftop greening.
- Creating a city that is worth the financial resources. What is "Suita"-ness?
- Use of converted heat energy.
- Suita as an area for employment in a society with declining population.
- Energy production in the vicinity. Local production for local consumption.

Evaluation and opinions on Basic Plan

- Get to know Suita at night at the Moonlight Concert => Experience for children. Coolness ↔ Hot air from the outdoor unit of an apartment.
- Activities to change (diversify) values from tangible to intangible "things" are important.
- Change your lifestyle (home, education) => Live at room temperature of 30 ℃.
- Childhood (meaningful, not stingy) => Education that values sharing, recycling, and things.
- Environmental town development fund 80 million yen => target 200 million yen. Efforts to eliminate waste in energy-conservation activities by each person. Renewable energy. Solar power generation even in condominiums. Condominiums built from now utilize solar power generation.
- Carrot and stick approach. Tax in Suita city (electricity). A Suita where people would want to live even with obligations => Solar power generation or rooftop greening is mandatory for condominiums. Providing energy-conservation information and seminars to SMEs.
- Innovations to change the consciousness of adults. Difficult => Is it possible to give benefits? Special points. Refer to the information on the good and the bad aspects of each country.
- Education. Local production for local consumption of energy. Store electricity at home.
- Burn waste => Residue, block. Connected with Ibaraki city. In Hokusetsu.

- **April 13 (Main opinions as future person)**

Comments on past policies

- It was good to sort into 5 types. I thought it was properly sorted now. Opportunity for that.

- In Ibaraki city, elementary schools collect milk cartons. Children can keep in mind the importance of resource recycling.
- I'm glad that the amount of waste is clearly reduced.
- I think that it is good because what we have now is the result of efforts from the past.
- Recycling methods such as tray collection. Burning waste is put in the tray => I would like the city to give an easy-to-understand explanation about the reuse of trays.
- I think that the elementary schools are gathering very good ideas.
- Did the visualization reduce the amount of resources used? Was this all right (not quantification)?
- It is very good that proper collection is done for free (while reducing the amount of sorting by visualization).
- It is not good to charge. I think that the amount of waste will increase just because you are paying.

Social situation of Suita city in 2050

- Shopping is no longer necessary. Distributed in the delivery box. It became convenient.
- It was difficult because it was crowded with cars, but the roads are now wide and comfortable.
- The number of people with cars has decreased. Now it's all electric vehicles. I still drive a car.
- Driver's licenses are an old concept now. Currently, autonomous driving is the mainstream.
- I'm having a hard time because I can't speak a foreign language (English), but the air is clean and nice. Gateball should be incorporated into e-sports.
- The space industry is really blooming right now.
- I used to grow vegetables outside in the soil, but now I grow most of them indoors. There used to be bees, but now there are few, so honey is very expensive.
- Now, artificial foods are also safe.
- We eat insects now. Old people don't eat it. You can't really eat much produce from flour now.

Environmental situation of Suita city in 2050

- Electricity is mainly private power generation (solar power generation and waste power generation).
- There is a shortage of water due to hydrogen power generation, etc., and the water bill is high.
- Water sources have been acquired by foreign companies and there is a shortage of water. A big mistake. A big mistake that has resulted in water shortages.
- Suita's ponds are also cleaner than they used to be.
- I think it would be good to use the excess green as a resource. Regeneration with forestry?
- You should plant trees in vacant lands to get timber.
- Somei Yoshino cherry trees have decreased sharply due to non-indigenous longhorn beetles, so we want to restore them.
- Energy can be self-sufficient at home, but business establishments (company offices) still rely on external sources, so we must be able to be more self-sufficient, up to 80%.
- Photosynthesis and solar power generation by using the wall surface of the building without reusing thermal energy in the manufacturing process (company offices). Reduced energy use in office buildings. Still an issue.

It would be good if the surplus electricity at home could be used in the office building. We should cooperate more. I think that the number of office buildings themselves has decreased because the number of people working from home has increased. So I'm not so worried for the future. The way companies should be is also changing. Isn't it okay to be small-scale?

- It has become less safe, but I don't go out as much, so I'm not too worried. China has become the world's leading power. Chinese language is widely used.
- Waste has been used for energy, and it's almost as though there's not enough waste. Regarding energy, I wonder if there is any problem anymore. Garbage and excrement are also independently used as energy at private homes.
- I don't need a doctor that much anymore.
- I'm glad that nuclear power generation is gone.
- I'm worried about an earthquake, now that everything else has gone so smoothly.
- Exercise menu (e.g., outpatient exercise) is shown.
- Electricity is privately generated, so I don't think much about it.
- I have been living for 120 years, so I am a little worried about my pension => Pensions begin after 80 years of age.
- New energy was discovered off the Pacific Ocean, but now people generate electricity at home, such as with solar power.
- Robots have entered the home and it has become easier, and less medicine is wasted.
- AI and my PC works together to deliver medicine at home.
- You can virtually experience the outside even at home with holography.

What should have been considered as a plan/measure in 2019

- Set mandatory energy self-sufficiency rates for companies, and the government will work to encourage excitement at the citizen level to collaborate, creating opportunities for the three parties to cooperate for energy self-sufficiency.
- The government will work so that citizens and businesses can collaborate, and the three parties will create opportunities to cooperate for energy self-sufficiency.
- The city has been cleaned up by the city's efforts (education since childhood).
- The greening plan is now better than in other cities (because not only the quantity but also the quality was considered).
- I think the city should have considered more diversity in children's education.
- Since the Suita Festival has become a big hit, we will devise new types of events and continue with them.

(e.g., city thinks about the environment and energy at moonlight events)

- The city will use vacant houses and vacant lots to provide for children, the elderly, and those in need of support (Work on legislation to make it easier to use vacant houses and vacant lots.) Solar power is generated at the city hall by arranging people who can talk about various things in a familiar place.
- Since there is a limit to solar power alone, new technologies such as hydrogen should be considered (in collaboration with Osaka University and industry).

- We should cooperate with Osaka University, which consumes the most energy in the city (For energy development and renewable energy development)
- Efforts to increase the number of volunteers. Invite children as well as adults to participate in environmental activities and events.
- Children can interact with each other by participating.
- Promote social participation such as recruitment only for the elderly."

Recycling A

- **March 30 (Main opinions as present-day person)**

Suita city in 2050

Living

- Children and old people live together.
- A world without tangible ""things"".
- Working up to about 75 years of age due to aging and extended lifespan.
- Anyone can speak a language ("Translation gummy" from Doraemon).
- Advances in car automation.
- Personal mobility (flying ability).
- Health needs will increase.
- Living a humble life.
- Living a human life (from now, in the context of death from overworking due to overtime work).

City

- The speed of progress is different (from now).
- No more cars.
- Development of trams.
- There will be no gas stations, and electricity demand will increase.
- You can immediately see where roads are broken.
- A system that does not require visit to the doctor.
- Buildings may change from rebar to wooden due to changes in values.
- The number of low-rise buildings is increasing.
- In Suita city, demand for condominiums will increase, but it will stop at a certain value.
- Increase in underground use.
- There will be no stores (due to robots and AI).

Industry

- Recycling becomes a business.
- Resource utilization changes by linking it with money.
- Money for burdens of health. Subsidies such as gym fees.
- Progress of deflation.
- The transportation industry will disappear (due to the development of 3D printers).
- The industrial structure will change due to AI => Increasing number of jobs seeking contact with people. There are no simple jobs (work).

Environment

- Even if electrification and AI are advanced, fossil fuels are still used for electricity.

- Shift to electric vehicles in consideration of energy efficiency.
- Noise elimination due to the spread of autonomous drivers. Increased housing demand along major streets.
- Environmental awareness changes (greening).
- Try to improve scenery.
- Self-sufficiency in energy.
- Greening of parking lots.
- Give incentives such as tax cuts to residents who are actively greening to contribute to “towns with a lot of greenery.”
- There will be no shopping streets.

Overall
- Improvements in how time is used.
- Human-centered society due to the development of AI, etc.
- The community space that connects people will stay up to 2050."

Evaluation and opinions on Basic Plan
- Methods for spreading awareness (seeing it for the first time after living here for 25 years) <= Basic plan.
- A system that allows consumers to get money by sorting waste (connecting to business and having a win-win relationship with each other).
- Create a system that makes recycling feel familiar.
- Create a system that allows for the use of recyclable waste (things that can still be used) by people who want it.
- It is necessary to create a system that becomes like a free recycle shop, with a mechanism that benefits people who want to reuse things without feeling guilty (waste dump).
- Is it not necessary to have a perspective on how to prevent the generation of waste rather than how to dispose of it in the event of a disaster?
- A system that sells by measurements instead of the current method of supermarkets selling in packages and throwing them away. If it is cheap, individuals psychologically think that they can throw it away, and buy in excess, potentially generating waste.
- If each person has a feeling of not letting things go to waste, they may realize their value.
- There may be a problem in terms of distribution (consciously). It is important to educate (consciously) <= Regarding the current way of thinking of ""consumer is king.""
- How to deal with ingredients such as parsley that are not used in large quantities but are not profitable unless they are sold in large quantities.
- Items that can be stored expire and are thrown away. Conversely, if you buy something with a short expiry date, you will throw away less.
- Going to face-to-face products which use chemicals such as those at farmers' markets, even if it is far away.
- Doing something about people to take recyclable waste without permission (because it's scary).
- Although smoking while walking is prohibited, many people still do so <= Think about how to regulate.

- Recycled paper will naturally decrease due to the effects of mechanization, so it would be better to deal with machinery.
- Currently, convenience outweighs the feeling of not letting things go to waste <= Necessary to change the sense of values.
- Clothing rental encouragement (to avoid throwing them away).
- If a system that can process anything rather than favor reuse, the economy may turn around.
- It would be beneficial if each household could dispose of waste.
- Development of recycling system.
- Reuse products from developed countries, which are consumer societies, to the benefit of emerging countries.

- **April 13 (Main opinions as future person)**

Comments on past policies

- The fertilizer approach is interesting. However, perhaps it was not effective because there was no next step?
- I think we should have made efforts to collect kitchen waste (like recyclable waste).
- It would have been nice if there was a policy for purchasing kitchen waste (application to agriculture).
- Important to continue efforts <= The key is to continue efforts.
- Charge fees for waste.
- Effects may appear with initiatives for businesses?
- Mechanism (Would have been beneficial if there was an effort to collect items after creation <= After-sales follow-up)
- Helpful because the designated range of burnable waste is wide.
- It is good that waste, which is charged a fee in other cities, is free in Suita.
- I don't think the price of the bags is high. It would be nice to have another approach.
- Some people decide where to live based on how easy it is to dispose of waste (Suita is easy to live in).
- Five types of sorting are just right.
- I don't know how strict the sorting should be.
- Difficult to perceive the effects of sorting if it is not quantified.
- You can choose supermarket waste bags, but household waste is forcibly bought.
- I think Suita's past efforts are thinking about the citizens."

Social situation of Suita city in 2050

- A transportation network that connects the main parts of the city.
- 100% electric vehicles (Gasoline stations are gone. There is a charging station in the house) <= The air is clean.
- There is no need to go to meetings (hologram projection).
- Robots will do the housework for you, and there is more personal time. I can work from home.
- There are residents in Suita because of its good environment.
- Work in an electric vehicle.

- Mobility enables movement underwater or in the air.
- I see the doctor less often.
- Suita city merged with other cities. The land price is grounded compared to the past when land prices used to be high due to location near the station <= In agreement.
- No need to physically go to the workplace.
- The demand for intellectual work will increase.
- Chemical research is conducted by robots. Focusing on philosophy.
- Connections between people will be emphasized. Good ideas are born when people meet.
- In 2100, the ecosystem will change (sparrows will disappear and crows will appear).
- You can learn anything at any time (there are no restrictions depending on the location).
- There is no need to learn a language.
- The number of foreigners in the home will increase.
- About half of university students are foreigners.
- Use good things for a long time.
- The number of people in suits will decrease as the number of people going out for work will decrease.
- From a uniform system (2019) to diverse ways of life.
- Less need to buy things (sharing). The number of actual stores will decrease."

Environmental situation of Suita city in 2050

- There is a device in your home that generates fertilizer from kitchen waste.
- You can dispose of waste directly from your home.
- There is a system that converts kitchen waste into energy.
- 100% of waste is recycled.
- Gasoline cars are gone and the air is clean.
- Reuse of waste (so that people who want to use it can use it again).
- Paper will be used in 2050 <= Use of paper?
- Only when it is important (methods of use change).
- A kitchen waste pipe like a water pipe is born.
- Mass production is eliminated thanks to 3D printers.
- Experience from the Nankai Trough Earthquake.
- Climate change such as sudden heavy rain.
- School education raises awareness of waste (to resources) <= In order to learn what you like.
- As the distribution increases, we will take measures to prevent waste from being generated."

What should have been considered as a plan/measure in 2019

- Lack of specificity.
- The level of policy proposals is different (concrete and abstract are mixed).
- Insufficient perspective on infrastructure development.

- Insufficient approach to paper.
- Don't know that paper can be reused. It is necessary to devise a well-known method.
- Twice a month for paper recycling collection is low. It needs to be easy and always available (in addition to being well-known).
- Food loss will increase in 2050. Therefore, it is necessary to further strengthen efforts in 2019.
- It is important to inform people about food loss. Education needs to be strengthened.
- External transmission of Suita city's efforts.
- Basic plan should be included in planning and practice.
- Spreading awareness through activation of social media, etc. City bulletins are easy to throw away (without reading).
- It is necessary not only to inform people with different cultures such as foreigners, but also to enforce some.
- Adjust the system as a whole.
- Actively work at school <= If a child does it, a parent will do it too.
- Incorporate into math and science classes.
- Provide incentives to participate in initiatives.
- Proceed with efforts from an early stage.
- Implement an image strategy for Suita city.

Recycling B

- **March 30 (Main opinions as present-day person)**

Suita city in 2050

Cities, infrastructure, industry

- Self-driving bus.
- AI, technology => Can go out freely.
-Compactification.
- Aging infrastructure.
- Further urbanization?
- Environmentally friendly transportation policy.
- Collaboration between companies and universities (unique to Suita).

#Environment

- Acceleration of global warming => Japan is at the forefront of response! How to reduce energy?
- How to reduce waste? Individuals can also address it.
- Won't the sea level rise?
- Creating a mechanism for recyclable waste. Initiatives to raise environmental awareness (personal bags). Policies for those initiatives needed.
- Disasters and infectious diseases.
- Accelerate the flow of decarbonization.
- Industry-academia collaboration model that contributes to the environment in the suburbs.
- Energy: Local production for local consumption.
- Think about how to use the surplus road.
- Solar panels for newly constructed homes.
- Working from home."

Evaluation and opinions on Basic Plan

- Plastic sorting and promotion policies.
- Disaster + water cycle => Looking to the future.
- What are the priorities for measures unique to Suita City, i.e., measures for highly effective places?
- General kitchens (large proportion) => Should be addressed.
- Waste production. Charge a fee.
- Determine the maximum amount that can be produced.
- "Re-use" practice day in the region!
- Disaster waste countermeasures are important.
- Is the personal bag necessary? Achievement status is good.
- Miscellaneous paper should be used in other ways, not as burnable waste!
- Measures against kitchen waste should be taken. Waste oil reuse should be reactivated => Key to system

construction.

- What should be utilized in food to prevent food loss should be effectively encouraged.
- Reuse should be promoted including moving garbage => Strengthen the mechanism of re-use (Jimoty, Mercari).
- Public awareness activities and human resource development using elementary and junior high schools (Saturdays and Sundays) in connection with ""Nurture."" Public awareness at bazaars and flea markets.
- Priority strategies and measures!
- Be able to see how the results of efforts (reuse, etc.) are effective. Measures for doing so.
- Strengthen and efficiently improve public relations (waste countermeasures).
- Innovations and mechanisms of how to take out waste (to make it easier) (aging).
- Necessary to make disposal of recyclable waste easier in order to approach target value. Implement measures.
- Smaller unit food sales volume => Do not leave too much."

April 13 (Main opinions as future person)

Comments on past policies

- Was the five-types classification system sufficient?
- Is it not better to cooperate and make efforts? Coming up with policy is not the end result. Improvement.
- Was the five-types classification system sufficient? Kagoshima had a few more.
- It would have been good to introduce a waste disposal unit.
- Kurukuru plaza => At the forefront, good.
- It might have been better to take a bit more measures against kitchen waste?
- Work on "reduce."
- Policy functions to some extent. In the future, single generation => waste will increase.
- Kitchen waste => School district units and areas are required. Issues that can only be understood by implementing policies on a district-by-district basis.
- Mechanism, system creation: School unit, etc.
- Not only policy but also social consciousness has changed. There is an evaluation of the effectiveness of the policy. Feedback from residents.
- I wanted to know if there was a policy goal.
- Was making the bags transparent sufficient?
- Maybe also include a fee charge?
- Evaluation is important. Evaluation is also important for measures against kitchen waste.
- Advantages and incentives for implementation."

Social situation of Suita city in 2050

- The sidewalk is wide, the stroller is easier to use, and it is easier to live here. A space where people can live comfortably. There is also a lot of green space.
- A society where people can live from 0 to 120 years old. People from all over Asia are gathering here now.

- In the old days, commuting rush. Now working from home. "Workplace" is an obsolete word.
- Increase in people (coming from outside).
- Personally connected work. From factory to park.
- Autonomous driving, technology, and working style will change significantly.
- You can feel the richness of the region. People re-evaluate value by seeing the goodness of the local nature.
- Private, drones, and transport change.
- In the old days, waste was taken out once a week. Now, a waste mail box.
- Elderly people can also work with technology.
- A change in the concept of "illness."
- City hall is closed. Using the network.
- Reduced hospital consultation time.
- Energy composition and change (80% renewable energy).
- Utility poles are gone.
- People not going out as much, that time now used for other things.
- A world of independence.
- The city hall will take the lead in connecting people.
- Individuals need to make their own choices.
- Changes in vegetation (global warming).
- Changes in public services.
- Privatization of water supply => Price change.
- Learning => At home => Not going out.
- Working from home, but going to the office once a month.
- Fewer shopping streets in front of the station => Lonely.
- Manufacturing overseas. Japan, development center => Mainly to come up with ideas.

Environmental situation of Suita city in 2050

- Now an era where waste is sold.
- A large recycling system has been built.
- It is expensive to put out waste => Efforts to avoid putting out waste.
- Taking care of things is of great value.
- Electricity is at own expense. Power generation.
- Can be put out without washing for reuse.
- Eliminate food loss <= Food is scarce worldwide.
- Kitchen waste => Organic fertilizer is mandatory.
- Private services have increased.
- Less need for incineration of waste => Renovate the facility.
- Garbage truck gone.
- Personal chopsticks, personal bag => Widespread dissemination (less hassle for washing). Personal tableware

=> Can be used in stores.
- Aeon waste bag => expensive.
- Packaging => No longer needed.
- The sales power of everyday dishes will emerge.
- The use paper is greatly reduced. Switching to electronic.
- Advertising leaflets will be greatly reduced. Switching to electronic.
- Use of paper but not converted into waste.
- Disaster (2040 Nankai Trough Earthquake) => Problematic due to lack of facilities.
- Advances in research on the disposal of large amounts of disaster waste.
- Aging => There are few people who are responsible for waste disposal.
- Nuclear power generation processing of Fukushima roughly achieved.
-Important to secure traditional techniques."

What should have been considered as a plan/measure in 2019

- Should have considered the use of rainwater (not just waste). Keep in mind that the weather will change.
- Paid system for waste disposal. Top-down (burden on beneficiary).
- Research should be done on how to return the packaging naturally instead of reducing it altogether. Convenience is important.
- The method of sorting and classification should be further examined (more detailed than the 5-types classification).
-The processing should have been made more private. Even though the administrative burden was reduced.
- The recycling system should be visualized and used.
- Should have promoted cooperation with private businesses.
- University => Research (recycling). The city should collaborate as an intermediary.
- Better environmental measures could be taken if the policy was evaluated from that time. A trial evaluation project in a certain part (model district).
- Even in 2019, the government should have taken measures for individuals (residents) to handle waste.
- It was better for the administration to ""softly"" push from behind => How to handle waste problem. Information dissemination. Goal.
- Materials => Research on things that are biodegradable. Conducted at an early stage where items do not need to be burned => University!
- Not only the policy of reducing waste.
- Sort between disaster trash and trash that is biodegradable => Can respond to disasters.
- Recycling measures that look at future industries.
- Wide-area collaboration for processing.
- Wide-area dissemination for disaster countermeasures.
- Citizens and government. Clarify the division of metropolitan city units => In the plan.
- Measures against global warming => It was better to reduce ""burning."" Such measures should have been taken.

Raise awareness.

Cross-section A

- **March 30 (Main opinions as present-day person)**

Suita city in 2050

Cities, infrastructure, industry

- Handcarts and strollers are easy to push. Flat road. A road with clean pavement. Construction work will proceed toward a road with few steps. In order to ensure wide roads.
- Park maintenance (update chairs, create shade). Include moving walkways only along the main road. Suita from 30 years ago: Bumpy roads. Countryside.
- Increased circulating buses. Division of northern and southern parts, enhanced transportation. Subway extension from Itakano.
- A rainwater storage tank that can be used in the event of a disaster.
- Include moving walkways only along the main road <= Requires electric power.

#Environment

- Abundant greenery.
- Stays green.
- Consider city planning so that greening will progress in residential areas as well.
- It would be nice to have cherry blossoms and greenery around Minami-Suita Station.
- Wall greening. Relaxing space nearby <= Easy to use for elderly people and families. Exercises. Decreased medical expenses.
- Installed power generation by vibration in Shin-Midosuji. Introduction of natural energy that can be used even in the event of a disaster.

#People's lifestyles (living, working style)

- Easy movement by elderly people.
- People who have moved in the city will take root here.
- Install an elevator on the north side of Esaka.
- IT is becoming more popular. Lifestyle and work will change.
- Work-from-home will increase.
- Drones and autopilot vehicles: at the individual level as well as at the large-scale transportation level, such as trains. Infrastructure use progresses. Cheaper than a shared taxi.
- Set up a booth to showcase the activities of the city in a fun place and event like the Suita Festival. Opinion box. Regarding administrative planning: Viable plan. Easy-to-understand transmission of achievement."

Evaluation and opinions on Basic Plan

(1) Environmental school

- Encourage adults. Spread lifestyle changes not only to children => Meals that do not produce kitchen waste. Place it at the bottom of the city bulletin. <= Work-life balance.

- Specific contents of environmental school.
- Eliminate waste of copy paper.
- Teaching about the environment, such as sorting microplastics, in an easy-to-understand manner.

(2) Fostering local environmental conservation personnel.

(3) Environmental management.
- Is it effective? Clarify what will happen as a result of the introduction.

(4) Environmental awareness of businesses. Granting incentives for businesses.
- List companies that have participated in environmental activities in city bulletins.

(5) Collaboration of citizens, businesses, and citizen groups.

(6) Cooperation with neighboring municipalities.
- Dissemination of environmental initiatives by utilizing not only city bulletins and circulation boards, but also Facebook, social media, and Kirin Tamura's programs.
- If working outside Suita city, it is difficult to participate in activities in the city. Promotion of initiatives in which people who do not belong to organizations in Suita city can participate.
- Waste export ban => Waste is overflowing.
- Waste bags: Distribute a fixed number of bags per person. Additional bags are expensive. Osaka residents dislike wasting items <= Same for personal bags. Water canteens are economical.
- Change from the ways of doing business. Sell beverages by refilling plastic bottles.
- Burning waste <=> Recycling: teach which one is better.
- Easy to get caught up with people who live carefree lives, but easier to act if recycling knowledge or evidence is prepared.
- In the old days, the refrigerator was also small.
- In the future, containers that are easy to recycle will be developed. Work with companies.
- Company: Change the selling method.
- Citizens: Change lifestyles."

- **April 13 (Main opinions as future person)**

Comments on past policies
- Wanted producers to take an approach to waste reduction such as over-packaging.
- Composting of kitchen waste did not have any uses.
- In Tokyo, sorting has been commonplace for a long time. It could have been introduced earlier.

- The collection of recycled materials is not complete.
- The transparency of the waste bags was good. Changed my awareness <= In agreement.
- No improvement in the sorting method even though the effect of reducing the amount of waste by sorting 5 types is not seen as a problem. More advanced measures should have been introduced earlier.
- Stopping composting can be evaluated as an example of successful PDCA cycle.
- It would be nice to have feedback on how recycling and sorting are useful.
- How much waste per person? It should be evaluated by the amount of waste by type per population.
- By imposing a fee on oversize waste, the amount of waste for transferring individuals could be reduced.
- I think we could have promoted recycling by creating the Kurukuru Plaza in various places. Create a system that allows for easy recycling.
- It would have been good to introduce various small measures as well as large ones.
- Installation of containers for collecting cans and bottles. Easy to use and is good. Bags don't come out. Washed and taken out by everyone.

Social situation of Suita city in 2050

- Road maintenance completed. EV, autonomous driving.
- Something like the old monorail has been developed. Easily go anywhere. You can go to Tokyo immediately. Europe in 3 hours. Mass transportation is gone, and movement is done with capsules of 5-6 people.
- Taxes are high.
- The Tower of the Sun has been standing upright since long ago. Symbol.
- May Theater has been renewed. Directly connected to the city hall.
- Can take care of your own health while at home, so individuals are safe.
- You can eat with a 3D printer. A house can also be built.
- Living spaces expanded underground and into high-rise buildings, and the amount of greenery has increased.
- Made-to-order production with AI budgeting for demand has eliminated waste.
- Items arrive immediately upon order, so no hoarding.
- Drone delivery, regional differences have disappeared.
- Cashless. No more hard currency.
- People are dispersed not only in the city center but also in rural areas.
- Virtual University (Worldwide). People of various ages at university. Appropriate number of researchers as well. Even difficult subjects taught by AI. No longer costly. Came to be well-regarded.
- No need to commute since working from home.
- Apply for moving online. When you enter the house, you have everything.
- AI teaches everything, more personal time.
- The work environment can be reproduced in VR at home.
- There is no retirement age and you can work for as long as you want.
- Era where lessons can be easily learned with VR. Choose various lessons at home.
- Use your time freely.

- No longer belonging to a company, but different work on an hourly basis.
- Climate change is severe, old houses struggle to adapt.
- I could not speak English in the past, but now, 5 to 6 languages are commonplace.
- Fully automatic translation (including dialects). Many foreigners in the city. Laws have also changed. Simultaneous and large-volume translation instead of one-to-one.
- Biometric authentication system has become widespread and no PIN is required.
- Education content is the same as before. The textbook is a tablet, but the pencil remains. School bag is gone.
- It's easier to wash.
- Child's physical strength has disappeared.
- Fraud still prevalent.
- The number of exchanges with foreigners has increased, and mutual understanding has progressed.
- Osaka people have come to walk slowly.

Environmental situation of Suita city in 2050

- Renewable energy is the mainstream. No need to buy electricity. Solar, fusion, and fossil fuels are no longer needed.
- Sufficient power production without being conscious of saving. No batteries required as there is a handy generator.
- Asphalt has decreased and the heat island effect has been alleviated. Greening.
- Asahi Breweries has introduced sunlight.
- More jobs at home, and no need for office, so energy consumption has decreased.
- Improvement has also progressed in mechanization. Need for people who maintain machinery. People who build or destroy equipment are needed, but production is automated.
- Sorting and disposal in the past, but disposal at home is now possible, so the concept of waste has disappeared.
- Paper is no longer needed.
- The world of children has expanded due to internationalization. Diversification of values.
- Climate change has advanced measures against heat stroke.
- Environmental awareness in China and India is increasing, and climate change is being controlled. China's population accounts for half of the world. A policy to crush companies that do not take environmental measures.
- The 2020 Olympics were hot, but now it is technically possible to control the climate.
- The spirit of not letting things go to waste, continued from ancient Japanese tradition is good.
- The gasoline car is gone and the air is clean.
- There is no exhaust gas in the air, and the roads are clean.
- Everyone uses things like the segway inherited from the past.
- PM2.5 is gone and allergies are gone. Pollinosis has also disappeared.
- The water is clean and you can go fishing in the Yodo River and probably swim in the Kanzaki River. Pollution sources have decreased.

What should have been considered as a plan/measure in 2019

- Education of children is important. Vacations should have been longer, and that time should have been spent learning and thinking about the environment, such as volunteering for the environment. It would have become a better environment earlier.
- Incinerator was damaged by burning any kind of garbage, which was a waste of money. Should proceed with more sorting.
- Update the incinerator in anticipation of the future.
- Citizen's movement to reclaim beautiful rivers.
- Drainage regulation. Heavy rains created a stream of water that washed away the river. The Kanzaki River is likely to overflow in 2050. Want to start construction sooner.
- Climate change has worsened, and the human body is also degenerating.
- A cooling method using heat of vaporization such as fog should be developed.
- Parks and tree climbing where you can play sports freely. We should promote the building of a body that can withstand the environment.
- Promote greening even in private homes.
- Renewable energy subsidies <= High costs of fuel such as gasoline.
- We will improve nature so that you can experience roasting sweet potatoes with fallen leaves. Leave behind toys.
-Need to create a mechanism to evaluate not only the environmental measures but also the results.
- We should have accelerated the measures to showcase our environmental efforts to the world with the goal of the 2025 Osaka Expo.
- Utilization of social media. Social media transmission of FD workshop
- Being able to experience the "environment." Link with lifestyle.
- Create measures to promote recycling rather than buying new items. Perhaps in the form of a coin locker? Leads to awareness that recycling is the norm.
- Advances in development if creating incentives of environmental points system for environmental behavior.
- Environmental model district. Create a district that introduces what will be realized in 2050.
- Development will proceed by creating incentives for companies that have produced environmentally friendly products.
- Reduction of food loss with food share refrigerators by introducing shared kitchens.
- A system that evaluates by the weight of the collected empty cans.
- Texts and systems that show behaviors that are beneficial to the environment => Stimulate the child's mind.
- If children are involved, adults will have to do it also.
- Human washing machine. A bath with a small amount of water.
- 2050: Many people think about the environment on a daily basis <= Ever since education about future design, everyone has come to think about issues as far as their grandchildren's generation.

Cross-section B

- **March 30 (Main opinions as present-day person)**

Suita city in 2050

Cities, infrastructure, industry

- Extortion of Midosuji. Condominiums ↑. Population ↑↓ 2050. Elderly, access (northern area). Infrastructure↑. Maintenance. Exhaust material ↑. Update ×. Greenery ↓ 2050 Anxiety <= Private shatrwn benefit . Hospital ↑. Housing complex (north) ↑.

Lifestyle

Walking

Public transportation

- Car ↓

AI

- Commuter town. Convenient, quiet, good living environment.
- Kita-Senri => Ghost town
- Furuedai Condominium: Baby-sitting
- Becomes lonely.
- Northern greenery ↓.
- CO2 ↓ (per capita)
- Esaka ↑. Total amount ↑.
- Kita-Senri ↓. University, hospital (national standard) ↑.
- Energy conservation for as much as is used (in large areas) <= Wasted in Suita => Hydroelectric power generation. Sunlight (no location) => Loss now => City officials have priority.
- Zero city halls.
- Waste (burnable) => Self-sufficiency in electricity.
- About what you can do at home (turn off lights).
- If you want to build a house (subsidy), then solar panels => ordinance. Mandatory.
- Groundwater (zero-emission building)
- A house with good performance. There are no supermarkets. The stores are gone. Vegetables are gone. No longer leave house (eat at home, work at home, remote). Only bars remain. The number of stadiums will increase. Community activity ↑. Connection with people. Everyone picks up trash. Green growth.

What will happen in 30 years?

- Expansion of greenery <= Crushed mansion.
- Education for children =>

- Cars not used (no longer owned). Electric bicycle. Delivery by drone.

Evaluation and opinions on Basic Plan

Nurture

- Self-government groups rather than individuals => At the forefront (large location).
- Businesses in the city first (do not bid on uncommon places).
- Collaborate with nearby entities. Environmental school OK (children teach parents) => School greening ↑. Expansion of connections with people at Biwako water sources (satoyama, fish, bamboo, fireflies) and local governments (e.g., biodiversity). => Expansion of greening. Biwako-Suita-Sakana (city hall + municipal hospital + water supply)
- Grasped as personal matter. Take children to parks, mountains, and rivers from an early age.
- Human resources (elementary school students) <= Education. Have children make personal bags at school => Used by parents. A connection of about three generations.
- People from various positions help each other.

-Paperless (using tablet).

Protect

- Development <= control.
- Protect the water quality of Suita (tapped water is drinkable).
- Fully commit to sunlight.
- Waste <= Environmental bag.
- Get to know about the creatures in Suita.
- Why do you pick up the trash? (Logical reasoning) => Watching association.

Prepare

- Greening is self-regulating (rooftop, wall surface, etc.). A new scenery of Suita.
- Greening rate => Change the townscape of Esaka.

Even if it is 10 m^2 or less => Priority Strategy A

- Countermeasures and prioritization of natural disasters.
- Autonomous decentralized base ↑. Power generation (independently). Waste power generation, hydroelectric power generation. Mabi town (may not be able to move), elderly people.
- Providing information on what the city can do (Minoo's city bulletin is very good).
- Currently 2 km. Can it be done at home?
- Possibility of power storage. Move an isolated person to a base.
- Even if a disaster occurs, it's OK for a few days (at home) => Impossible to do according to manual.
- Water, direct water connection in elementary school (× water tank) ↓."

- **April 13 (Main opinions as future person)**

Comments on past policies

1991

- Waste fertilizer: Δ.

<= How effective was it?

The subsidy is new. More fertilizers need to be used if this policy is implemented. Needs improvement. Will only decline due to limited purposes of use, but it is a waste to think only in the scope of Suita city.

1992

Sorting into 5 types: ◎.

<= Difficult, but good policy. Recycling will not happen without sorting, so good policy. First to implement nationwide, but subsequent development has been poor.

1995

Container and packaging recycling: ◎.

<= May go with plastic, etc. Unpleasant, but recycling would be promoted if money were spent on waste disposal.

- 2004

Waste bag colorless and transparent: ◎ (privacy: Δ).

<= Waste may have decreased, but as a citizen, it is easier for the citizens to take out any color.

- Suita city is a little slack in terms of waste disposal, so may be brought in from other cities.
- Amount of waste should decrease if the population decreases, but a policy to fundamentally reduce the amount of waste is also necessary.
- Most of the waste in daily life is burnable waste and plastic. Separation of these two types of waste may be the key.
- Overall, we should come up with more improvement plans.

Social situation of Suita city in 2050

- Many vacant houses due to overdevelopment. Costs money to tear down.
- Few workers due to the declining birthrate in 2019. The number of people is decreasing and workers are hard to find. No problems with finding place to live.
- Difficult due to global warming in 2019 => Resolved in 2050. People's connections through active older people. People, plants, and society adapt to the heat.
- Greenhouse gases: Buried underground.
- Changes in the way residents' associations should be. (Example) Waste removal. A mechanism that allows you to get out of the house.
- The population size is just right.
- Buildings that are no longer needed are rebuilt. Suita is a comfortable place to live in commercial, residential, and green environments.

- Problems due to convenience: Making convenient things => Increased environmental problem load upto 2050.
- Shifting of hardships caused by past generations who did not think of solutions.
- Visiting collection of waste from driving a car.
- Aging of residential age group => Increasing number of people living around the station. Development of transportation network.
- Time-independent movement due to unmanned transportation network.
- Taxes are increasing => Welfare is improving.
- Electricity, gas, and water bills are increasing.
- The price of services will be higher even if the profit is collected for convenience.
- There is little greenery due to overdevelopment.
- Increasing demand for person-to-person (welfare) work.

Environmental situation of Suita city in 2050

- 2019: Less greenery, movement to increase greenery => 2050: Greenery is increasing around Esaka and is being nurtured. Increasing number of children who can think about the environment => They will think about it even when they grow up.
- 2019: Experience to make elementary school in Suita city feel ""green"" => 2050: Place importance on greenery. Enjoy greenery with family.

2050: Use lawn for roads where people walk. The city as a whole has a sense of crisis about the environment and works as a whole.

#2019 => 2050

- The sense of crisis about the environment has spread throughout society, and people are willing to listen to seminars and take measures against heat stroke. However, people have turned their eyes away from large-scale problems such as greenhouse gases => Measures are required.
- Costly problems such as energy due to insufficient funds and are difficult to tackle.
- Can work in jobs specializing in environmental protection <= Good cycle for the environment. Because of its importance (also good salary), children also yearn for it.
- The generation who received environmental education will come to the middle class of the company, and they will change the way the company thinks about the environment.
- Social thinking, changing to seek something that is a little higher than cheap but highly sustainable."

What should have been considered as a plan/measure in 2019

- First, the city will take measures against greenhouse gases. Next, requests will be made for cooperation with other projects. The scale of countermeasures is gradually increased.
- Learning environmental lessons over long periods of time similar to learning Japanese language <= Incorporate mobility such as experiences as well as a passive form of receiving.
- Environmental restrictions are placed on development.

- Many workshops and seminars will be held to share knowledge in other fields.
- Land use and development considering the future.
- Collect quantitative data on solar power generation even on a small scale and connect it to the future => Useful when taking action in the future.
- Awareness of personal waste: Charge fees for waste disposal. Necessary ↔ Unnecessary item delivery system for citizens throughout the city. Semi-forced, increase awareness by having financial burdens imposed.
- Do not think deeply about the future with a negative image => Ask individuals to take action by giving them positive things.
- Providing something good to businesses that are environmentally friendly <= May be better for businesses to eliminate or loosen the upper limit of environmental measures such as ordinances for those purposes.
- Paperless => The need for stationery related to paper has decreased accordingly.
- Investigating how much waste has been eliminated will convince citizens, and these will be material for education and seminars.
- Can learn about other measures and raise awareness of eliminating waste by competing with other local governments for the amount of waste that has been lost.
- Generalizing as ""environment"" is too broad => Further divide the issue and talk in individual small units to exchange opinions.
- Education and seminars on sustainable thinking. First of all, make a place for providing awareness.
- Increase the number of business divisions that put marks on product specifications that indicate consideration for the environment.