

Mongolia's First Deliberative Poll: Initial Findings From "Tomorrow's City"

Background and Overview

On December 12-13, 2015 a scientific random sample of the residents of the Capital City Ulaanbaatar gathered for two days of deliberation about major infrastructure projects proposed in the city's master plan. The agenda consisted of small group discussions and questions to experts during plenary sessions that explored arguments for and against the 14 large projects that would require borrowing for financing. The project took place under the guidance of a distinguished advisory committee co-chaired by Mayor Bat-Uul and Mr. Zandanshatar. It included distinguished figures in Mongolia, including former political actors with diverse political backgrounds, business and civil society (see appendix A).

Who Participated? An initial survey was conducted with a stratified random sample of 1,502 residents. They were selected after random selection of households and random selection of participants within those households. All areas of the city were covered including both apartment and Ger areas¹. 400 of the initial respondents who had indicated a willingness to participate in the deliberation event were randomly selected to receive invitations. The goal was for invitations to yield at least 300 participants that would fully participate in the deliberative poll. Because an extensive initial survey was administered before the invitation was extended, the 317 who actually completed the two days of deliberation can be compared in both their attitudes and demographics with the remaining 1,185 who took the initial survey. Appendix C shows that in demographics there were very few significant differences. In gender, education, age, employment status, marital status and income, there were no significant differences. In the type of dwelling, there were slightly more who lived in Ger dwellings and in communal buildings and there were slightly fewer long-time residents (of more than 11 years.) In policy attitudes with respect to the 14 proposed projects, there were only slight differences between the 317 participants and the 1,185 non-participants (Appendix D). Based on the excellent work of the survey firm MMCG, the project succeeded in gathering a microcosm of the residents of Ulaanbaatar for a weekend's deliberation in one place—the Government Palace.

What Happened? When the deliberators arrived, they were randomly assigned to small groups of about fifteen in which they discussed the projects in depth. Moderators from the Zorig Foundation helped deliberators go through discussions of all projects according to the agenda presented in the briefing materials. Moderators were trained not to give any hint of their own opinions. Their role was just to facilitate an equal, mutually respectful discussion of the pros and cons of the various proposals. The small group deliberations culminated on agreement about key questions that were directed to panels of experts in the plenary sessions. The two-day process alternated small group discussions and plenary sessions until all fourteen projects were discussed. At the end of the two days, the participants took a version of the same questionnaire they had responded to on first contact.

All fourteen proposed projects were rated on the same scale before and after deliberation. Hence the final results provide a ranking of priorities from 0 (extremely undesirable) to 1 (extremely desirable) with .5 being exactly in the middle. Citizen opinions, both before and after the event, indicate that all the proposals were thought to be desirable. No proposed project had a rating less than 0.644 after

deliberation. This is not surprising since they all reflect years of work in development and they would all help solve important public problems. However, there were significant changes post deliberation. Eight of the fourteen proposals changed significantly, five going down and three going up in support. The rankings and the changes in opinion are presented in Table I. All of the before and after survey results are presented in Appendix B.

Table 1: Proposed Projects, Ranked highest to lowest POST Deliberation

	T1	T2	T2-T1	Sig.
1. Improved heating for school and kindergartens (2)	0.942	0.945	0.006	0.527
2. Tuul and Selbe River Protection and Conversation (1)	0.954	0.936	-0.018	.091*
3. Eco Park and 2 Waste Recycling Facilities at Existing Landfills (3)	0.921	0.923	0.002	0.862
4. Nailakh Construction, Industrial and Technology Park (10)	0.759	0.887	0.127	.000***
5. Light industrial park in Emeelt Area (6)	0.84	0.88	0.04	.018**
6. Improved Insulation for Apartment Buildings (5)	0.874	0.835	-0.039	.018**
7. Demolish and Rebuild Old buildings in Baga Toiruu Area (8)	0.787	0.793	0.006	0.753
8. Tuul River Water Dam (4)	0.897	0.773	-0.123	.000***
9. Freight and Logistics Center in Eastern Ulaanbaatar (13)	0.705	0.759	0.054	.005***
10. Mongol Naadam Complex Building – Indoor and Outdoor Sports Facilities (9)	0.76	0.741	-0.02	0.406
11. Tuul Highway (12)	0.738	0.735	-0.003	0.912
12. UB Gasification Project (14)	0.664	0.689	0.025	0.301
13. Ulaanbaatar Metro (11)	0.742	0.67	-0.071	.003***
14. Eco-Corridor (7)	0.795	0.644	-0.151	.000***

*Note: The survey results presented are means from pre deliberation and post deliberation, with the different between the post and pre deliberation mean and statistical significance. Significance below 0.01 is indicated with “***”, below .05 with “**” and below .10 with “*”. Pre-deliberation rankings are shown in parentheses after each project.*

Initial Findings on Citizen Preferences and Values

The surveys taken by citizens included a range of questions. In addition to asking those taking the survey to rate the 14 proposed projects, a number of questions were posed to gain a better understanding of why their preferences were emerging. There were also questions focused on gaining a sense of citizen's trust for government, as well as views on political and public discourse. This data from the survey is generating some initial findings that will eventually be bolstered by further data generated from transcripts of the actual discussions that took place during the deliberative event. From the initial data from the pre- and post-questionnaire the following initial findings have emerged:

An Environmental Focus. Four of the top six proposals after deliberation share an environmental focus on clean energy, energy efficiency, and waste disposal. The top proposal, "improved heating for schools and kindergartens" had a mean rating of .945 out of 1. It would upgrade insulation and the technology in the heating system of public schools. The second highest proposal, "Tuul and Selbe River Protection" featured initial efforts to improve water flow and rehabilitate the rivers. Even though support for the project went down somewhat after the deliberation, it was still the second highest rated proposed project at .936 out of 1. The third highest, "Eco park with 2 waste recycling facilities" was largely unchanged at .923. The sixth highest was "improved insulation for apartment buildings" at .835. These results are consistent with the public's strong environmental priorities expressed in other questions in the survey. In a series of questions about top policy goals, post-deliberation included "providing clean energy and reducing energy consumption" at .891 and "improving the water supply" at .963, in addition to the three highest rated policy goals being reducing air pollution, reducing water pollution, and reducing land pollution both before and after deliberation. Another indication of how strongly citizens felt about the environment can be found in a trade-off question weighing a cleaner environment against cheaper energy. The deliberators were asked to choose between having cheaper energy, "even if that means it is bad for the environment" and the option to "preserve the environment even if that means energy is expensive." They opted clearly for a cleaner environment even if it cost them in energy prices (a mean of .779 on the 0 to 1 scale, a significant increase after deliberation).

Multiple Population and Industrial Centers: Three of the projects that increased significantly would decentralize industry and employment and move it away from the city center. Nailakh Construction, Industrial and Technology Park increased significantly to .887 and moved in the rankings all the way up to fourth highest priority (from tenth). The Light Industrial Park in Emeelt Area also increased significantly (to .888) and moved up to fifth (from sixth). Lastly the Freight and Logistics Center in Eastern Ulaanbaatar increased significantly to .759 and moved up in comparative rank to ninth (from thirteenth). In general, there was strong support after deliberation for the idea that "having multiple population centers across the nine districts of UB" would serve worthy goals such as "decrease congestion" (.728), "decrease pollution downtown" (.758), "build local economy" (.749, a significant increase), "modernize the city" (.739) and "create better living environments" (.807, a significant increase). There was especially strong support after deliberation for the idea that "companies that produce or store hazardous waste should be required to move from the city center." Support increased significantly from .877 to .929. There was also very strong support for requiring (.775) and for

incentivizing “companies in the same industry to move to certain parts of the city (a significant increase to .822).

Public Private Partnerships: Several of these projects involved public private partnerships (PPPs). The deliberators were ambivalent about PPPs, agreeing to some degree that “long term use of PPPs creates unhealthy partnerships between the public and private sectors” (.627) and “gives some companies an unfair advantage” (.674). But there was even stronger agreement that “PPPs make it possible for the city to make investments it could not otherwise afford” (.718 a significant increase with deliberation) and “PPPs will stimulate growth and job opportunities” (.830). Overall there was a move in favor of the PPPs after deliberation as demonstrated in a tradeoff question: “Some people think PPPs are generally good for development because they provide financing the government could not afford on its own. Other people think that PPPs are generally bad for development since they mean projects have to primarily serve the needs of the private sector.” The deliberators started on the side of this tradeoff favoring PPPs (“good for development”) and moved significantly further in that direction (from .448 to .377, where a response on the end of the scale at 0 is “good for development,” while 1 is “bad for development”). On another question, they also moved significantly further in favor of government intervention in private sector markets (an increase from .563 to .613, where a response on the end of the scale at 0 is “against government intervention,” while 1 is “in favor of government intervention”).

Debt and Taxes: Two other tradeoff questions reveal basic orientations about debt and taxes. Participants were asked which position they agreed with: “Some people think we should develop the city as fast as possible, even if that means the city incurs a lot of debt. Other people think that the city should limit borrowing, even if that means the city is developed much more slowly.” They started with strong opposition to more debt, but moved to a more moderate position, (moving significantly from .845 to .792). On taxes, they were asked which position they agreed with: “Some people think that it is best to fund critical infrastructure and development projects in Ulaanbaatar, even if that means we have to increase taxes. Other people think that taxes should not be increased, even if it means that some projects cannot be built.” Post deliberation they agreed with the position that resisted tax increases, even if that slowed development (.682, no significant change).

These positions resisting increases in debt and in taxes for new development may shed light on the Metro and the Eco-Corridor. The Metro fell significantly from .742 to .670 and dropped in rank from 11th to 13th. The Eco-corridor fell significantly from .795 to .644 and dropped in rank from 7th to 14th. The Metro is a very expensive project and would require a lot of debt. The Eco-corridor has no revenue stream to support it, unlike many of the other projects. Further quantitative and qualitative analyses will explicate further why these projects fell in support. The transcripts may also reveal concerns, which, if responded to, could generate more support for some projects.

Knowledge. The questionnaire included seven specific knowledge questions. The knowledge index can be used as an explanatory variable to explain opinion changes on the policy attitudes. After deliberation there was a modest but highly significant gain in correct answers (a gain of 3.8 points significant $p=.007$). Questions included the percentage of households in UB that live in apartments (percentage correct

increased from 47% to 59%) and the amount of waste buried in the ground (increasing from 23% correct to 35%). But some of the questions proved difficult and may have created confusion. Appendix E has the results for the knowledge questions.

Efficacy and Mutual Respect. Participants started out with a low sense of efficacy. They viewed public issues as complicated and they agreed, both before and after that “people like me don’t have any say about what the government does” (.808, no significant change). However, on the statement “public officials care a lot about what people like me think” there was significant movement from disagree (.398) to agree (.544). This change was strongly significant (at the .000 level) and one of the largest substantive changes in the project. Asked about those with whom they “disagree strongly” there was a large change in the direction of greater mutual respect. Agreement that those they strongly disagree with “have good reasons; there are just better ones on the other side” went up from .654 to .739 (a change significant at the .000 level). There was also a significant decline that “they are looking out for their own interests” (from .694 to .621) or that it is “hopeless to reach agreement with them (.656 to .601, a significant drop). As for working together, agreement increased with “I would be willing to compromise to find a solution we can both support” (significant increase from .675 to .726).

Event Evaluations. In the final questionnaire, participants were asked to evaluate each part of the event. 94.3% viewed the “overall process” as “valuable.” 95% viewed participating in the small group discussions as “valuable”, 93.4% viewed meeting and talking with other delegates outside the small group discussions as “valuable”, and 95% viewed the large group plenary sessions as “valuable.” As for the moderators, 98.1% agreed that “my group moderator provided the opportunity for everyone to participate in the discussion.” 97.5% agreed that “the members of my group participated relatively equally in the discussions.” 97.5% strongly disagreed with the statement “my group moderator sometimes tried to influence the group with his or her own views.”² 95.6% agreed that “I learned a lot about people very different from me—about what they and their lives are like.”

By the end of the process 84.8% say they had read half or more of the briefing materials and 72.8% regarded them as “mostly” or “completely balanced.” All the evaluation questions can be found in Appendix F.

Appendix A: Advisory Committee

Mayor Bat Uul, Chair

G. Zandanshatar, Co-Chair

D. Sodnom, Former Prime Minister

Ts Gombosuren, Former Minister of Foreign Affairs

Ch. Ganbold, Chairman of the Board, XasBank

B. Dash-Yondon, Professor and distinguished figure in the sciences

D. Choijamts, His Eminence Khamba Lama of Gandantegchinlen Monastery

Ts. Ariunaa, Executive Director of the Arts Council of Mongolia

J. Od, President, MCS Group

B. Batbayar, respected columnist and commentator

P. Tsenguun, Director, Altan Taria Co. Ltd

D. Sukhjargalmaa, Senior Advisory, MONFEMNET, National Network of Mongolian Women's NGO's

R. Bat-Erdene, President, National University of Mongolia

Appendix B: Opinion Changes

Note: The survey results presented are means from pre deliberation and post deliberation, with the different between the post and pre deliberation mean and statistical significance. Significance below 0.01 is indicated with “***”, below .05 with “**” and below .10 with “*”. When reviewing results, please keep in mind the answer scales for each question as questions have varying answer scales. All scales have been rescaled onto a 0 to 1 scale, e.g. for a 0 to 10 scale is rescaled to 0 to 1, where 1 is the highest.

1. On a 0 to 10 scale, where 0 is "extremely undesirable", 10 is "extremely desirable," and 5 is exactly in the middle, how desirable or undesirable would you say each of the following is?

Q1	T1	T2	T2-T1	Sig.
a. Ulaanbaatar Metro <i>A metro line, mostly underground, that has 14 stops running from Tolgoit to Amgalan with stops downtown along Peace Avenue.</i>	.742	.670	-.071	.003***
b. Tuul River Water Dam <i>This project will build a dam, water reservoir and associated infrastructure including water treatment facilities along the Tuul river.</i>	.897	.773	-.123	.000***
c. Tuul Highway <i>A highway along the Tuul river that will allow traffic to bypass the downtown area of the city.</i>	.738	.735	-.003	.912
d. Light industrial park in Emeelt Area <i>Moving factories processing skins and leather out from the center of Ulaanbaatar to a newly built, modern facility located in Khaan-Uul Khoroo 13 and Songinokhairkhan Khoroo 20.</i>	.840	.880	.040	.018**
e. Nailakh Construction, Industrial and Technology Park <i>A new industrial park for companies manufacturing construction materials in Nailakh Khoroo 3.</i>	.759	.887	.127	.000***
f. Eco Park and 2 Waste Recycling Facilities at Existing Landfills <i>Having recycling companies and companies making products using recycled materials around a complex connected to two major landfill sites.</i>	.921	.923	.002	.862
g. Freight and Logistics Center in Eastern Ulaanbaatar <i>Building the infrastructure needed for a logistics center to transfer goods efficiently from trains to trucks for distribution around Ulaanbaatar.</i>	.705	.759	.054	.005***
h. Improved Insulation for Apartment Buildings	.874	.835	-.039	.018**

Q1	T1	T2	T2-T1	Sig.
<i>Co-fund with residents efforts to upgrade the insulation in up to 1,077 prefabricated panel apartment buildings in Ulaanbaatar.</i>				
i. Demolish and Rebuild Old buildings in Baga Toiruu Area <i>Modernize the downtown area of Ulaanbaatar by removing some old and unsafe buildings and replacing them with newer developments.</i>	.787	.793	.006	.753
j. Mongol Naadam Complex Building – Indoor and Outdoor Sports Facilities <i>Build stadiums and tourist facilities to host the Naadam events and other sporting events.</i>	.760	.741	-.020	.406
k. Eco-Corridor <i>Invest in reforestation and infrastructure to protect traditional migration routes of indigenous animal species.</i>	.795	.644	-.151	.000***
l. Tuul and Selbe River Protection and Conversation <i>Invest in water treatment technology pilots, small embankments and dams, a water study station, and efforts to dredge the river as well as landscaping projects to improve the overall atmosphere along the river.</i>	.954	.936	-.018	.091*
m. UB Gasification Project <i>Invest in infrastructure needed to store and distribute petroleum gas for use in Ulaanbaatar homes.</i>	.664	.689	.025	.301
n. Improved heating for school and kindergartens <i>Invest in upgrading insulation of 42 school and 50 kindergarten buildings and improving technology and system of the heating.</i>	.942	.945	.006	.527

2. On a 0 to 10 scale, where 0 is "extremely undesirable", 10 is "extremely desirable," and 5 is exactly in the middle, how desirable or undesirable would you say each of the following goals are for public policy?

Q2	T1	T2	T2-T1	Sig.
a. Providing clean energy and reducing energy consumption	.879	.891	.012	.377
b. Creating efficient transportation	.830	.814	-.015	.333
c. Reducing traffic congestion	.939	.943	.003	.733
d. Enhancing public safety and disaster readiness	.892	.896	.004	.756
e. Modernizing buildings	.770	.822	.052	.007***
f. Promoting local industry	.957	.945	-.012	.199
g. Promoting Mongolian culture	.930	.903	-.027	.020**

Q2	T1	T2	T2-T1	Sig.
h. Protecting wildlife	.935	.919	-.016	.146
i. Improving water supply	.953	.963	.010	.255
j. Building adequate housing	.904	.926	.022	.085*
k Improving facilities and spaces for recreation	.866	.856	-.010	.501
l. Developing the economy	.944	.922	-.022	.036**
m. Reducing air pollution	.964	.958	-.007	.481
n. Reducing land pollution	.942	.943	.000	.977
o. Reducing water pollution	.966	.959	-.008	.361

(1=other people)	T1	T2	T2-T1	Sig.
Q3: Some people think that energy should be as cheap as possible, even if that means it is bad for the environment. Other people think that we should preserve the environment, even if that means energy is expensive.	.735	.779	.045	.058*
Q4: Some people think that the city should be modernized faster, even if that means old parts of the city are lost. Other people think that we should preserve old parts of the city, even if that means modernization happens much more slowly.	.813	.801	-.012	.611
Q5. Some people think that we should develop the city as fast as possible, even if that means the city incurs a lot of debt. Other people think that the city should limit borrowing, even if that means the city is developed much more slowly.	.845	.792	-.053	.022**
Q6. Some people think that it is best to upgrade existing housing, even if many buildings are old. Other people think that it is best to provide new housing, even if that means fewer people will get housing.	.568	.593	.025	.403
Q7. Some people think that it is best to fund critical infrastructure and development projects in Ulaanbaatar, even if it that means we have to increase taxes. Other people think that taxes should not be increased, even if it means that some projects cannot be built.	.670	.682	.012	.655

8. And, how strongly would you agree or disagree that having multiple population centers across the nine districts of UB would... (agree=1, disagree=0)

	T1	T2	T2-T1	Sig.
a. decrease congestion	.699	.728	.030	.163
b. decrease pollution downtown	.729	.758	.029	.150
c. build local economy	.707	.749	.042	.030**
d. change the culture of the city	.697	.700	.003	.879
e. modernize the city	.711	.736	.025	.186
f. create better living environments	.764	.807	.043	.023**

9. On a scale from 0 to 10, where '0' is "", '10' is "extremely likely", and '5' is "exactly in the middle", how likely or unlikely are the following? (1 = extremely likely)

	T1	T2	T2-T1	Sig.
Increasing the number of apartments will decrease pollution.	.732	.803	.071	.001***
Building new infrastructure will foster economic development.	.787	.832	.044	.022**
Developing satellite cities will lower congestion.	.878	.898	.020	.183

10. And, how strongly would you favour or oppose with each of the following proposals? (0=oppose, 1=favour)

	T1	T2	T2-T1	Sig.
a. Companies that produce or store hazardous waste should be required to move from the city center	.877	.929	.052	.006***
b. Companies that produce or store hazardous waste should be incentivized but not required to relocate from the city center	.197	.200	.002	.918
c. The government should require companies in the same industry in certain parts of the city.	.765	.775	.010	.695
d. The government should incentivize companies in the same industry to move to certain parts of the city.	.770	.822	.052	.019**

11. And, how strongly would you agree or disagree with these statements about public private partnerships (PPPs)? (agree=0, disagree=1)

	T1	T2	T2-T1	Sig.
a. Long term use of PPPs creates unhealthy partnerships between the public and private sectors	.639	.627	-.010	.691
b. Long term use of PPPs gives some companies an unfair advantage	.677	.674	-.003	.892
c. PPPs make it possible for the city to make investments it could not otherwise afford	.656	.718	.062	.015**
d. PPPs will stimulate growth and create job opportunities	.801	.830	.028	.179

(1=other people)	T1	T2	T2-T1	Sig.
Q12. Some people think that PPPs are generally good for development, because they provide financing the government could not afford on its own. Other people think that PPPs are generally bad for development since they mean projects have to primarily serve the needs of the private sector.	.448	.377	-.071	.005***

(0=distrust, 1=trust)	T1	T2	T2-T1	Sig.
Q13. And, on a 0 to 10 scale, where 0 is completely distrust, 10 is completely trust, and 5 is exactly in the middle, how much do you trust the Ulaanbaatar municipal government to do what is right?	.595	.797	.202	.000***

(0=stay out of market, 1=completely intervene)	T1	T2	T2-T1	Sig.
Q14. And, on a 0 to 10 scale, where 0 is completely stay out of private sector markets, 10 is completely intervene, and 5 is exactly in the middle, how much would you say the government of Mongolia should intervene in private sector markets?	.553	.613	.059	.014**

15. Here are some things that people find more or less important for themselves or society to have. On a 0 to 10 scale, where 0 is extremely unimportant, 10 is extremely important, and 5 is exactly in the middle, how important or unimportant would you say each of the following is to you? (1=extremely important)

	T1	T2	T2-T1	Sig.
a. Seeing to it that everyone has equal opportunities	.935	.939	.008	.756
b. Leaving people and companies free to compete economically	.874	.900	.026	.089*
c. Being able to choose where you live	.926	.952	.026	.033**
d. Making sure that nobody suffers from lack of food or shelter	.894	.891	-.003	.849
e. Earning as much money as possible	.886	.882	-.004	.812
f. Getting to decide exactly what to do with everything I earn	.939	.949	.011	.303
g. Making sure that government does what the people want	.870	.915	.044	.004***
h. Minimizing the gap between rich and poor	.905	.922	.017	.231

i. Promoting economic growth	.941	.965	.024	.011***
j. Having a safe community	.970	.979	.009	.272
k. Making sure everybody has clean air and water	.989	.990	.001	.730

16. And how strongly would you agree or disagree with the following statements? (agree=1)

	T1	T2	T2-T1	Sig.
a. Public officials care a lot about what people like me think.	.398	.544	.146	.000***
b. Most public policy issues are so complicated that a person like me can't really understand what's going on.	.620	.646	.025	.290
c. People like me don't have any say about what the government does.	.572	.556	-.016	.581
d. I have opinions about politics that are worth listening to.	.800	.806	.006	.789

17. Now we'd like you to think about the people who *disagree strongly* with you about issues like those we've been asking you about. How strongly would you agree or disagree with each of the following statements about those people? (disagree=0, agree=1)

	T1	T2	T2-T1	Sig.
a. They just don't know enough	.600	.625	.025	.255
b. They are politicized and just follow party leaders	.665	.648	-.017	.493
c. They believe some things that aren't true	.666	.680	.014	.498
d. They are not thinking clearly	.631	.632	.001	.956
e. They have good reasons; there just are better ones on the other side	.654	.739	.085	.000***
f. They are looking out for their own interests	.694	.621	-.072	.002***

18. And how strongly would you agree or disagree with each of the following statements, also referring to people who disagree strongly with you about issues like those we've been asking you about? (agree=1, disagree=0)

	T1	T2	T2-T1	Sig.
a. I respect their point of view, even though it is different from mine.	.775	.748	.028	.158
b. It is hopeless to reach agreement with them.	.656	.601	-.055	.016**
c. I would be willing to compromise to find a solution we both can support.	.675	.726	.051	.039**

Appendix C: Demographic Representativeness

Note: These results compare participants who completed the entire deliberation process and participants who completed the pre-deliberation survey, but did not attend the event. The statistical significance show whether there is substantive difference between the participants and non-participants.

	Participants (N=317)	Non-Participants (N=1185)	Sig.
Gender	(%)	(%)	
Male	48.3	50.5	NS
Female	51.7	49.5	
Education			NS
Masters/PhD or above	4.7	5.1	
Bachelor or university diploma	28.1	30.3	
Full secondary education	44.8	46.6	
Vocational education	10.4	6.8	
Incomplete secondary education	10.1	9.4	
Elementary education	1.3	1.5	
No education at all	0.6	0.3	
Age (in years)	40.8	40.3	NS
What is your current employment status?			NS
Public and budgetary organization	7.6	8.9	
Non-governmental organization	0.3	0.8	
Private sector	21.8	21.3	
Self-employed	23.0	21.1	
Herder	0.3	0.3	
Student	6.9	8.5	
Not employed	26.5	23.1	

Other	13.6	16.1	
Marital Status			NS
Single	19.6	22.5	
Married	72.9	67.7	
Separated/Divorced/Widowed	7.6	9.8	
Number of children under 18	1.4	1.3	NS
Monthly Household income (tugrugs)			NS
Up to 200,000	10.2	7.8	
Between 200,001 and 500,000	31.4	34.7	
Between 500,001 and 1,000,000	39.1	38.1	
Between 1,000,001 and 1,500,000	12.7	13.0	
Between 1,500,001 and 2,000,000	4.8	3.9	
More than 2,000,0001	1.9	2.6	
Type of dwelling			
Mongolian ger	33.4	26.8	.020
Khashaa plot and house	24.9	28.5	NS
Apartment building	37.9	42.6	.127
Communal building	3.8	1.6	.015
Private house	0.0	0.5	NS
Length of residence			0.001
6 months - 1 year	18.9	15.5	
1-2 years	14.8	10.1	
3-5 years	18.6	17.7	
6-10 years	19.2	17.6	
11 years or more	28.4	39.0	

Appendix D: Attitudinal Representativeness on Policy Options

Note: These results compare participants who completed the entire deliberation process and participants who completed the pre-deliberation survey, but did not attend the event. The statistical significance show whether there is substantive difference between the participants and non-participants. Significance below 0.01 is indicated with “***”, below .05 with “**” and below .10 with “*”.

1. On a 0 to 10 scale, where 0 is "extremely undesirable", 10 is "extremely desirable," and 5 is exactly in the middle, how desirable or undesirable would you say each of the following is?

	Participants (N=317)	Non-Participants (N=1185)	P-NP	Sig.
c. Ulaanbaatar Metro	.742	.739	.002	.902
b. Tuul River Water Dam	.897	.865	.031	.028**
c. Tuul Highway	.738	.741	-.003	.884
d. Light industrial park in Emeelt Area	.840	.810	.030	.067*
e. Nailakh Construction, Industrial and Technology Park	.759	.732	.028	.108*
f. Eco Park and 2 Waste Recycling Facilities at Existing Landfills	.921	.915	.006	.553
g. Freight and Logistics Center in Eastern Ulaanbaatar	.704	.694	.011	.527
h. Improved Insulation for Apartment Buildings	.874	.849	.025	.098*
i. Demolish and Rebuild Old buildings in Baga Toiruu Area	.788	.770	.018	.312
j. Mongol Naadam Complex Building – Indoor and Outdoor Sports Facilities	.760	.689	.071	.000***
k. Eco-Corridor	.796	.769	.027	.133
l. Tuul and Selbe River Protection and Conversation	.954	.952	.002	.857
m. UB Gasification Project	.664	.659	.005	.785
n. Improved heating for school and kindergartens	.942	.930	.012	.188

Appendix E: Knowledge³

Question (% correct)	Pre	Post	Post-Pre	Sig
In 2010, about what percentage of households in UB live in apartments? (Correct Answer: 40%)	46.7	59.0	+12.3	.001
What source(s) of water does the city rely on for drinking water? (Correct Answer: Groundwater aquifers and river water)	25.9	24.3	-1.6	.647
Last year, approximately how much waste was buried into the ground? (Correct Answer: 1.5 million tons)	23.3	35.0	+11.7	.001
What of the following statements is TRUE? (Correct Answer: Liquefied petroleum gas is 100% imported)	25.9	27.4	+1.5	.630
What are the three main sources of the air pollution in Ulaanbaatar? (Correct Answers: Combined heat and power stations, vehicle exhaust, Ger districts; Combined heat and power stations, Ger districts, Dust from the unpaved roads)	89.3	87.1	-2.2	.379
Which percentage of the city's 2014 expenditures was spent on servicing debt? (Correct Answer: 0)	3.2	4.1	+0.9	.533
Knowledge Index (6 questions)	35.7	39.5	+3.8	.007

Appendix F: Evaluations

On a scale of 0 to 10, where 0 is "a waste of time", 10 is "extremely valuable" and 5 is exactly in the middle, how valuable was each of the following in helping you clarify your positions on the issues?	% Valuable
a. The overall process	94.3
b. Participating in the small group discussions	95.0
c. Meeting and talking together delegates outside of the group discussions	93.4
d. The large group plenary sessions	95.0
	% Agree
And how strongly would you agree or disagree with each of the following statements?	
a. My group moderator provided the opportunity for everyone to participate in the discussion.	98.1
b. The members of my group participated relatively equally in the discussions.	97.5
c. My group moderator sometimes tried to influence the group with his or her own views.	90.9 Strongly Disagree
d. My group moderator tried to make sure that opposing arguments were considered.	22.1
e. The important aspects of the issues were covered in the group discussions.	95.6
f. I learned a lot about people very different from me - about what they and their lives are like.	95.6
g. Few members dominated discussions.	46.1
h. The members of my small group respected each other's views.	99.1

And how much time would you say you spent reading the briefing material before today's event?	
None	2.5
About a half hour	12.9
About an hour	24.3
About an hour and a half	7.3
About two hours	18.0
More than two hours	35.0
Before the discussions started, how much of the assigned briefing material would you say you had read, on average?	
Just glanced at the materials	11.0
Read less than half of the materials	9.2
Read about half of the materials	19.6
Read more than half of the materials	20.2
Read most or all of the materials	40.1
And by the end of the last discussion, how much of the briefing materials would you say you had read?	
Just glanced at the materials	8.2
Read less than half of the materials	6.9
Read about half of the materials	12.3
Read more than half of the materials	20.8
Read most or all of the materials	51.7
Would you say that the briefing material was mostly balanced, or that it clearly favored some positions over others?	

Completely balanced	18.9
Mostly balanced	53.9
Favored some positions over others	24.3
Don't Know	2.8

¹ MMCG describes the sampling for the initial survey as follows: “The work was organized in 2 steps. The first step was pre-polling survey. In the framework of the pre-polling survey “we selected 150 kheseqs (sections) of 8 districts from total 1168 kheseqs (sections) of 152 khoroos of 9 districts of Ulaanbaatar city using stratified random sampling. Stratification was based on type of dwelling in kheseqs: ger area kheseqs and apartment area kheseqs. Then we selected 1500 households using the household lists and the mapping. From the selected households we selected 1500 survey respondents from household members who aged 18 years old and above by Kish Grid method.”

² The evaluations included an additional moderator question “my group moderator tried to make sure that opposing arguments were considered.” Only 22% agreed with this question. This result is sharply at odds with the other three moderator evaluation questions. We believe it was likely misunderstood. Note that this question immediately followed the question soliciting strong disagreement on moderator influence (a point which may have confused the respondents).

³ Note, one of the seven questions is excluded from the knowledge index and not reported in the table because the relevant answer was not provided in the briefing materials or during the course of the discussions.