WEBVTT

1
00:00:20.920 --> 00:00:23.600
Jessica Peyton / SPUR Public Programs: Hey, everyone! We'll get started in just a second.

2
00:00:28.090 --> 00:00:29.220
Jessica Peyton / SPUR Public Programs: He's.

3
00:00:35.670 --> 00:00:49.109
Jessica Peyton / SPUR Public Programs: Okay. Let's go ahead and get started. My name is Jessica Payton, and I am one of Spurs public programming associates. Thank you all so much for joining us today. Many of you here are spur members, so we want to thank you for your support.

4
00:00:49.120 --> 00:01:09.770
Jessica Peyton / SPUR Public Programs: If you're not a member, I encourage you to join to support spur's ongoing work in using education, research, and advocacy to make our cities and region more prosperous, sustainable, and equitable places to live. Your financial support enables us to continue our work, including the hosting of programs like today's to find more information about membership online at Spur Dot Org.

5
00:01:10.040 --> 00:01:16.039
Jessica Peyton / SPUR Public Programs: Our next program is tomorrow in San Jose at twelve, thirty, P. M. It's called Checking in with San Jose

6
00:01:16.050 --> 00:01:40.490
Jessica Peyton / SPUR Public Programs: how residents rate their overall quality of life can be a good indicator of the health of the community to check on community health in the Bay area's. Largest city spur and San Jose State University recently surveyed residents and students about the quality of life in San Jose and on campus join us as we highlight findings related to aspects of San Jose's economy and identify some areas for continued focus, such as mobility, safety, and health and health.

7
00:01:40.680 --> 00:01:45.369
Jessica Peyton / SPUR Public Programs: Today's digital discourse is the risky business of transportation. Megaprojects,

8
00:01:45.930 --> 00:01:52.360

Jessica Peyton / SPUR Public Programs: transportation. Megaprojects cost too much, and take too long, frequently surpassing their original budgets and deadlines.

9
00:01:52.370 --> 00:02:07.330
Jessica Peyton / SPUR Public Programs: Moving faster through these projects requires the competence of public agencies to make tough choices with uncertain or partial information. But the only way to do that while ensuring public interest, goals are met is with a strong policy foundation and rigorous oversight Every separate way

10
00:02:07.360 --> 00:02:19.580
Jessica Peyton / SPUR Public Programs: to address this. The Metropolitan Transportation Commission is creating a regional megaproject advancement policy or map to identify and monitor costs and delivery risks while improving passenger experience

11
00:02:19.590 --> 00:02:32.989
Jessica Peyton / SPUR Public Programs: join us to discuss the challenges. The bay area's, transportation projects, face. But what the map actually does, and how to situate it in the context of their plans and policies. So today we're joined by our panel. First up is Kenneth fallen.

12
00:02:33.000 --> 00:02:50.460
Jessica Peyton / SPUR Public Programs: Kenneth is an assistant director of the funding policy and Programs group at Mtc. Focused on Federal State and regional funding for transit in the San Francisco Bay area. He received his Va. In history from the University of San Francisco and his Mba and Mpa from the University of Texas in Boston.

13
00:02:50.470 --> 00:03:10.920
Jessica Peyton / SPUR Public Programs: Next up we have. Paul Lewis Paul is chief finance officer and policy director at the Eno Senator for transportation, where he leads policy projects related to Federal policy, transportation, planning and transportation governance. He received his Bs. In Civil engineering from Ohio, Northern University, and his Ms. Transportation from the Massachusetts Institute of Technology,

14
00:03:11.050 --> 00:03:24.889
Jessica Peyton / SPUR Public Programs: and finally, what Laura told off Laura's first transportation policy director. She believes that a sustainable transportation system is a scaffolding for a society that cares for the environment and embraces public life, and that is a healthier, more just, and more process.

15
00:03:24.900 --> 00:03:42.150

Jessica Peyton / SPUR Public Programs: We want this to be an interactive conversation and plan on spending as much time as possible engagement with all. So I encourage you the chat box to share your thoughts each other and the speakers. Um! But please submit any questions you have for the panelists in the Q. And a panel at the bottom of your screen, or at the top. If you're using the mobile app,

16
00:03:42.160 --> 00:03:45.880
Jessica Peyton / SPUR Public Programs: and with that i'm going to pass it over to Laura to start the discussion.

17
00:03:47.020 --> 00:04:17.010
Laura Tolkoff: Hi, everybody, and welcome. Thanks so much for joining us today. Um, before we get started. Um. I just wanted to give you a little bit of a a a landscape view on what we'll be covering today. Um! So first what we'll be talking about are some of the key challenges that major projects are mega projects, experience, and some of the root uh the root causes of those challenges. We'll talk about some of the types of solutions to address those major challenges, especially hitting on those that are under consideration for

18
00:04:17.019 --> 00:04:46.699
Laura Tolkoff: these major project advancement policy. We'll talk about Why, it makes sense to regionalize some parts of project risk management. Um! And we'll talk a little bit more about the details of the major project advancement policy. Um The other policy connection or sorry, the policy connections to other changes that are underway in the in the San Francisco Bay area, and how you might engage and track the development of the major project advancement policy.

19
00:04:46.710 --> 00:05:16.220
Laura Tolkoff: And so, first we are going to hear from Paul Lewis. He's going to talk about some of those key challenges and families of solutions with a particular focus on what happens around implementation. Um and the delivery phase. I'll give a brief presentation of some spurs work focusing more on the planning and project development phase of a Project's Life Cycle, and then we'll turn it over to Kenneth for those details on the major project advancement policy.

20
00:05:16.230 --> 00:05:19.460
Laura Tolkoff: So with that I'm going to open it up to Paul.

21
00:05:21.480 --> 00:05:29.820
Paul Lewis (Eno Center): All right, thank you, Laura, and some slides are going to be coming up here in just a moment. I'm going to talk through the

22

00:05:30.010 --> 00:05:36.820
Paul Lewis (Eno Center): just A few slides of a report that we released last year called saving time and making sense. We're really looking at

23
00:05:36.830 --> 00:05:53.470
Paul Lewis (Eno Center): um. Why does it take so long and cost so much to build public transit projects in this country, and it was a really revealing study, and one that I think you'll find very interesting, and has a lot of applicability to what's going on in the bay area. So next likely

24
00:05:54.980 --> 00:06:20.240
Paul Lewis (Eno Center): just a quick note about the organization, you know, is a nonprofit independent Think Tank. We're based in Washington, Dc: We've found it one hundred and one years ago, and we focus on all modes of transportation. And this particular subject is something we've been looking at for the past several years trying to figure out some practical solutions, to making projects easier to build and less less costly.

25
00:06:20.250 --> 00:06:21.600
Paul Lewis (Eno Center): The next slide, please.

26
00:06:23.290 --> 00:06:43.099
Paul Lewis (Eno Center): The research methodology that we've been using, and we have that report that I had called saving time and saving time and making sense, and we'll get into some of those findings. We have other reports coming out. This is kind of a broader program that involves an advisory panel of stakeholders and experts from around the world.

27
00:06:43.110 --> 00:07:11.230
Paul Lewis (Eno Center): We have a construction cost database that you can access online and download. There's seventy plus projects in the United States and over one hundred and fifty projects from abroad, and we've been using that adjusted for inflation adjusted for purchase, price parity as a good metric a way to at least provide some kind of ballpark comparison on a cost per mile for us projects versus those abroad, and i'll get into some of the findings from that

28
00:07:11.240 --> 00:07:26.760
Paul Lewis (Eno Center): database effort. Here. In a few minutes We have a background guide, and we have lots of regional case studies, and this has really been the the critical part of what we've done is we've looked at how regions build projects, and we try to extract some of the lessons from those. And i'm going to get into some of those here in a few minutes

29
00:07:26.840 --> 00:07:27.980

Paul Lewis (Eno Center): next slide.

30
00:07:28.620 --> 00:07:33.579
Paul Lewis (Eno Center): Okay, Key finding. So we're going to next slide. Go ahead and and and move on to the next one, too. Thank you.

31
00:07:33.870 --> 00:07:49.180
Paul Lewis (Eno Center): So the first one is a graphic again. It's a little hard to read, but this shows a cost per mile left-hand side, graphed with a percent tunnel. So as things get tunneled more, the cost per mile goes up, as you would expect.

32
00:07:49.190 --> 00:07:56.170
Paul Lewis (Eno Center): The The blue line is the United States, and the orange line is not the United States,

33
00:07:56.270 --> 00:07:58.520
Paul Lewis (Eno Center): and we see a pretty consistent

34
00:07:58.530 --> 00:08:27.680
Paul Lewis (Eno Center): about fifty percent cost premium in the United States. It doesn't seem to matter so much whether it's not tunneled or fully tunneled. And there's lots of variability right, because there's lots of changing nature of projects. But the us again consistently is more expensive when we add in other major projects like New York City, which is not on this, There's a few big projects in New York that cost premium for tunnel projects goes up to two hundred and fifty percent

35
00:08:27.860 --> 00:08:56.229
Paul Lewis (Eno Center): Um! And then we know that there's a couple of big projects ongoing in California. We have not included those. But the L. A. Regional connector, is estimated to be at about nine hundred million dollars per mile purple line in Los Angeles, about nine hundred and fifty million dollars per mile, whereas in other countries they they tend to build their tunnel transit,

36
00:08:56.240 --> 00:09:05.910
Paul Lewis (Eno Center): averaging at about three hundred and fifty million dollars per mile. So in some cases it seems to be several orders of magnitude, more or several times more at least,

37
00:09:05.920 --> 00:09:25.709

Paul Lewis (Eno Center): and so that that points to us that there is kind of this broader systemic problem that not only we have, but it also shows us that we can address it right. Next slide shows us that not only does it cost more, but it also takes longer. And again apologize for the relatively small graphic here,

38
00:09:26.000 --> 00:09:55.169
Paul Lewis (Eno Center): but you see for for projects that have zero to twenty percent of their right. Avoid That's that's tunneled, and then eighty to one hundred. That's tunneled. There's a significant premium from a time standpoint about five or six months for those that are not titled, and for projects that are almost all tunneled. It's over a year longer to construct, and we know that time is money and money is time. And so this says that again, we have a problem here in the United States, but it's also one that we can look to some peers to help

39
00:09:55.560 --> 00:09:56.640
Paul Lewis (Eno Center): next slide.

40
00:09:58.140 --> 00:10:17.610
Paul Lewis (Eno Center): So when when we looked at why and what to do about it, we bucketed things into three broad categories that certainly have a lot of overlap. One of those is governance, right? How our our institutions are structured to build projects. We looked at processes. How do we get projects done? How, when? What policy, environment are built,

41
00:10:17.620 --> 00:10:30.619
Paul Lewis (Eno Center): and then standards, and those are not only the standards, the fire, and the earthquake standards, but also the standardization that we have in projects that we can learn from other places of

42
00:10:30.690 --> 00:10:31.879
Paul Lewis (Eno Center): next slide.

43
00:10:32.600 --> 00:10:38.970
Paul Lewis (Eno Center): So now I want to talk about some of our key policy and practice recommendations next slide.

44
00:10:40.440 --> 00:10:51.270
Paul Lewis (Eno Center): And the first one is really looking at this issue of how we need to get the institutions, the oversight and the decision making right. This is one where we talk about governance

45
00:10:51.280 --> 00:11:08.309
Paul Lewis (Eno Center): a couple of things i'm just going to mention real quickly, and we can go into some of these specifically during the Q. And A. Time, and you can certainly look up some of our details that we have in our report. But the institutions that we've charged with leading projects need to have the right authorities, the right staff

46
00:11:08.320 --> 00:11:27.010
Paul Lewis (Eno Center): and the right governance to move them, and the projects they have, for they need to follow international best standards for procurement, and they need to continue to train their public sector staff so that they can manage these big projects, the consultant staff and the construction staff to deliver them in a timely manner.

47
00:11:28.800 --> 00:11:58.309
Paul Lewis (Eno Center): Um, we also need to improve the processes it it takes to to build these products. And so certainly some of that is looking at our environmental review um and some of our planning processes. And I think one of the things that we found with environmental review that we're going to get into later in this this Webinar is the fact that we often try to speed up the very beginning of the project. We rush through the planning, and we put a lot on to the environment, and if we take a little bit more time in the beginning, and make sure that we build

48
00:11:58.390 --> 00:12:01.990
Paul Lewis (Eno Center): a a good, solid planning foundation

49
00:12:02.000 --> 00:12:11.899
Paul Lewis (Eno Center): a lot of times that helps projects later in the situation, or later in the construction, go more smoothly, and and some of that, too,

50
00:12:11.910 --> 00:12:39.550
Paul Lewis (Eno Center): is making sure that we engage with the the stakeholder community businesses, residents in a way that is productive, and helps make sure that we're addressing their concerns, but also helps empower public sector staff to make some of the tough decisions that they need, and there's a quick example. Some of you may recognize the the picture here. This is tunneling under Wilshire Boulevard for the purple line extension in Beverly Hills, California,

51
00:12:39.560 --> 00:12:58.159
Paul Lewis (Eno Center): and during this project Beverly Hills wanted this main thoroughfare open during the week, and so they limited construction to the weekends they required decking over. So the traffic had passed through, and it made it really hard to build a project. And then, with the Covid spring, two thousand and twenty stay at home orders.

52
00:12:58.170 --> 00:13:14.130
Paul Lewis (Eno Center): La Metro convinced the the Beverly Hills to allow seven day a week construction, and they were able to finish this tunneling project seven months ahead of schedule, and we know that time is money and money is time. We haven't figured out exactly how much money is saved,

53
00:13:14.140 --> 00:13:32.619
Paul Lewis (Eno Center): but clearly saving seven months and construction of one station is a huge benefit to a project, and we see this in other places where they do this, rip the band aid off, approach a lot more often, and that saves a lot of time and a lot of money, and is a big factor in and moving projects for it, and we can get into that here in a little bit,

54
00:13:33.310 --> 00:13:46.459
Paul Lewis (Eno Center): and then next slide. I'll wrap up here where we need to think about the standards that we have for projects and not just standards for fire, safety, environmental, those kind of

55
00:13:46.470 --> 00:14:03.889
Paul Lewis (Eno Center): standards, but also standards for our standardization. Right customization needs to be deemphasized, and how we build projects, and we need to borrow more ideas and and stop building projects that are so customized.

56
00:14:03.900 --> 00:14:22.470
Paul Lewis (Eno Center): And then, in terms of project standards. We also need to maximize custom benefits because we have such a cost problem. We tend to build projects where it's easiest, not necessarily where it's the most beneficial. And getting out of that paradigm is going to be a big step forward and using some of these tools to help make sure that

57
00:14:22.480 --> 00:14:29.629
Paul Lewis (Eno Center): making projects more useful, it doesn't necessitate an increase in costs, is going to be really critical to building the transit that we want in the future.

58
00:14:29.640 --> 00:14:51.200
Paul Lewis (Eno Center): So with that i'll go to my final slide here. Um, where we'll have questions at the end. But you can download the report at project delivery dot inotrans org. You can email me. My email address is here on the screen, P. Lewis at eno-trans Org. And i'll stop there and turn it over to the other presenters, and then ready for and everybody to answer some questions.

59
00:14:53.590 --> 00:15:11.110
Laura Tolkoff: Great? Well, thank you just a moment while I pull up my slides as Well, I would love, you know, Paul, there's a couple of questions in the Q. And A. While i'm pulling up my slides if you'd like to speak to any of those two questions.

60
00:15:11.360 --> 00:15:12.629
Paul Lewis (Eno Center): Take a look.

61
00:15:36.650 --> 00:15:41.200
Laura Tolkoff: Actually, Jessica, would you mind pulling up my slides or having some issues?

62
00:15:41.210 --> 00:15:43.580
Jessica Peyton / SPUR Public Programs: Yes, give me one second. Let me go get them.

63
00:15:47.540 --> 00:15:56.499
Laura Tolkoff: So I think there's a good question here. What are some examples of projects being customized and some of the cost and time Time impacts associated with that.

64
00:15:58.560 --> 00:16:09.740
Paul Lewis (Eno Center): Yeah. So I've just started. I had a hard time pulling up the chat for some reason, but the window kept disappearing on me. So there's a couple questions here. One's looking at or asking

65
00:16:09.750 --> 00:16:18.930
Paul Lewis (Eno Center): how some places pay significantly more for right-of-way acquisition. I think that there's certainly a lot of evidence of that

66
00:16:19.010 --> 00:16:36.489
Paul Lewis (Eno Center): in other countries. I think there's two things is that there tends to be less resistance in some ways to project development. There's less ways for people to appeal and kind of drag on the process.

67
00:16:36.500 --> 00:16:44.609
Paul Lewis (Eno Center): But property acquisition is certainly a big part of it. Part of the way is is minimizing some of those those

68
00:16:44.650 --> 00:16:46.410
Paul Lewis (Eno Center): needs right, some of that

69
00:16:46.420 --> 00:17:05.600
Paul Lewis (Eno Center): limiting the ways that we we have to acquire that property. And the problem with this one is that it gets very new ones, but it's definitely a good question. Our recommendation is really kind of focused on making sure we do this as early as possible, because if we end up delaying the property acquisition, then

70
00:17:05.609 --> 00:17:09.450
Paul Lewis (Eno Center): property owners end up having a lot of leverage towards construction phase.

71
00:17:10.920 --> 00:17:14.080
Paul Lewis (Eno Center): And then there's another question here about um

72
00:17:15.200 --> 00:17:28.309
Paul Lewis (Eno Center): nearby infrastructure. Right? Utility relocation is a huge cost driver for any project a lot of times How we'd structured our projects here in the United States is that we saddle public transit projects with a lot of the costs,

73
00:17:28.319 --> 00:17:35.509
Paul Lewis (Eno Center): because a lot of the utilities are publicly owned and the public utility it doesn't want to pay for it. So they make the transit project do that.

74
00:17:35.520 --> 00:17:54.550
Paul Lewis (Eno Center): What we found is again in best practice is is identifying those utilities to be very early in the process, and working with those stakeholders in a transparent way, to make sure that costs are assigned appropriately and transparently. So. We know how much, how much

75
00:17:54.710 --> 00:18:09.250
Paul Lewis (Eno Center): the cost of a transit project is taking on, and also setting up those agreements, so that a lot of times those utility companies will move their their utilities at their own cost if they know early enough. And again they're not forced to do it in a very crunched timeline, trying to get construction done.

76

00:18:10.660 --> 00:18:40.500
Laura Tolkoff: Thanks, Paul, and sorry for uh the technical villages here. Um! So moving to um to the next phase, i'll talk. We're going a little bit uh backwards in terms of the life of a project. Um! So Paul was talking more about the implementation and delivery phase, and i'm talking a little bit more um up level to the planning um at Project Development phases, and how you actually uh and further upstream to how we actually choose what we build. So i'll be referencing.

77
00:18:40.510 --> 00:18:50.660
Laura Tolkoff: That's for published a couple of years ago called more for less, which is really focused on how to plan and deliver the bay area's. Next generation of transit projects more quickly and cost effectively,

78
00:18:50.670 --> 00:19:05.130
Laura Tolkoff: you know. First i'll start with. Why do we care about this? Right? I think it's really easy to get enamored with shiny projects. I don't think that's really why we're here. What we're focused on more is is really

79
00:19:05.140 --> 00:19:19.099
Laura Tolkoff: the the bigger challenges here of the fact that the total cost of the projects that we want to build here in the Bay area exceeds available resources. And this was true before Covid, and it's truer now

80
00:19:19.110 --> 00:19:48.479
Laura Tolkoff: and then, when projects cost too much and take too long, we get less of them, and I think that's a challenge for us, because, you know, we we have a limited budget. Um, You know the bay area is better off than most, but but still a limited budget, and I think we all are striving to complete our transportation network and make it much more robust. Um. A third major challenge or reason this is so important is really, because, you know, smaller but no less important projects can get crowded out,

81
00:19:48.490 --> 00:20:16.929
Laura Tolkoff: costs too much, and take too long at baseline, and then, especially when they continue to have experience cost escalation. So with the way that we end uh that we fund transportation projects. Um, In California. Most of our counties are self help counties. Um! And it means that um Sometimes the capital dollar can get shifted uh between projects. Um, or that there is less money in the end for

82
00:20:17.750 --> 00:20:47.729
Laura Tolkoff: for service. And so, when high, we have higher capital costs that can sometimes result in service, cuts um, And then finally, I think um. Public trust is really something that is

essential to trans funding model, especially given that we are self help uh, in so many of our counties. Right? Um. Every negative headline about a project can be really really damaging. And so it's really important that that people feel that their public agencies are using public

83
00:20:47.740 --> 00:21:16.919
Laura Tolkoff: dollars um efficiently and effectively. And if you take this a step back, you know the bigger picture here is that what we're trying to solve for is both the climate emergency um, And the fact that we really need to be giving people real mobility and access on transit um, And so that's a bigger picture of what we're trying to accomplish. And really the specific role that major Projects play is really in. You know how we think about delivering the system that we need to the people

84
00:21:16.930 --> 00:21:19.680
Laura Tolkoff: who need it.

85
00:21:20.000 --> 00:21:49.950
Laura Tolkoff: And so, as just diving in here, as Paul mentioned, you know, our the bay area has a very similar um portrait compared to some of the case studies and and the portfolio that Paul took in the enocenter study. So it regularly takes decades to fund and build a single project. I think, when the project becomes an idea, you know, it goes through multiple stages of conceptual development

86
00:21:49.960 --> 00:21:54.200
Laura Tolkoff: to often multiple rounds of an environmental clearance.

87
00:21:54.210 --> 00:22:24.189
Laura Tolkoff: We often have to pass more than one ballot measure to get projects funded. Um! And so these projects, and the longer they take to fund the longer it takes to actually build them. Right? So um! Our projects tend to take decades. Um, which you know can be challenging from a public public trust perspective, as well as making sure that we have the transportation network that we need. Um. Our costs also far exceed comparable projects in other countries, so we didn't do an extensive analysis in a way that they,

88
00:22:24.200 --> 00:22:33.469
Laura Tolkoff: you know Center did but similarly found that if you take a sample of some of our projects were regularly three or four times the average.

89
00:22:33.700 --> 00:23:03.690

Laura Tolkoff: Another thing that is important is that we tend to underestimate project cost. To start with, this basically looks at um A handful of megaprojects in the bay area, some of which were support completed, some of which are ongoing and looked at. You know how much we thought they would cost, and then how much they ended up costing. And this is all adjusted, based on cost escalation for ah construction. And so you know what this is telling us is that you know we um

90
00:23:04.030 --> 00:23:32.679
Laura Tolkoff: we like money. Um underestimate project cost. This is actually something that you see globally because of the lack of um rigorous cost, estimation, and planning that happens at the beginning of the project. And you know what this comes down to is a challenge for project selection because we commit to these projects. Um in the blue. Basically So when we think we have a very sketch, we we come into projects when we have a very sketch level

91
00:23:32.690 --> 00:23:45.130
Laura Tolkoff: understanding of what they might actually cost. And so it can really skew the projects that we end up committing to politically and financially through the regional transportation plan or Plan Bay area.

92
00:23:45.920 --> 00:24:15.840
Laura Tolkoff: And so, when it comes to some of the key challenges that result in, you know, the longer timelines and the entire costs. You know, some of the things that we see are that we have really fragmented governance and funding systems. That kind of get in the way of developing a shared vision for both the transit network and individual projects. This is a challenge both for project, selection and and also during project development. As we determine what exactly is the project we're trying to build,

93
00:24:15.850 --> 00:24:19.780
and what does it need to do for passengers and for the public

94
00:24:19.920 --> 00:24:38.159
Laura Tolkoff: to um core cost image cost estimation, excuse project selection as I spoke about just moments ago, and that, you know, is important both for project selection, but also cascading impacts through the life of a project, because nobody wants to announce that they're caught, that their project is more expensive than they thought it would be,

95
00:24:38.210 --> 00:24:51.079
Laura Tolkoff: and so there will always be a pressure to keep costs lower, which can sometimes have negative impacts, for for down the line in terms of the project benefits.

96
00:24:51.090 --> 00:25:20.740
Laura Tolkoff: Third um transit agencies. Deliver Major. Oh, sorry transit agencies deliver major projects just once in a generation which makes them vulnerable to first time or mistakes. Now this is something that's really uh unique to the United States into the Bay area, not necessarily other parts of the world. That also experience caused to overrun um. But here we have this challenge of you know we mobilize really just once. Um! And so we're not approving experience and expertise and transferring it from one project

97
00:25:20.750 --> 00:25:27.710
Laura Tolkoff: another as effectively as we could at that make them doing so would make us get better and better as we go,

98
00:25:28.180 --> 00:25:57.960
Laura Tolkoff: and for um, you know, we have a lack of flexibility and a lack of experience in choosing and managing. Ah, procurement and project delivery models. Um! California is fairly restrictive. Um on the on the legal front relative to procurement and project delivery models. And so that can be a real challenge. And then fifth um, I think. Paul mentioned this a little bit, but sqa certainly exposed projects to litigation. Risk that can really um

99
00:25:57.970 --> 00:26:24.249
Laura Tolkoff: leading project sponsors to cut projects or downsize them, or change them in some way that can really kind of degrade the overall project benefits and make it hard to realize those initial benefits, or can simply delay projects sometimes indefinitely. And so, you know, those are big problems that we see at some of the root of

100
00:26:24.260 --> 00:26:25.710
Laura Tolkoff: our challenges.

101
00:26:25.720 --> 00:26:55.409
Laura Tolkoff: So in our report we talk about. I think, ten ideas for changing um ah for helping to improve. Ah project costs and timelines and quality, and i'm just going to highlight a few here. So big idea Number one is really to go back to that moment when we actually choose what to build. So really to improve regional transportation planning, so that the projects that offer the best public value are the ones that are advanced,

102
00:26:55.420 --> 00:27:18.930
Laura Tolkoff: and what that looks like to us. And I'm. Just going to talk through the ones that are involved here is really to expand. Um, Mtc's authority to act as the region's transit network

planner. And So what this means is giving a larger role to kind of at the regional level. To really determine what projects we choose to build.

103
00:27:18.960 --> 00:27:48.950
Laura Tolkoff: The way that we actually develop projects now and commit to projects. Now is that it's more of a bottom-up approach in which congestion management agencies and transit Ah! Operators nominate projects to Ntc. For Plan Bay area, and it goes through essentially a very, very high, level, filtering process to look at the costs and benefits. And this is a process that has gotten more rigorous over the past few years.

104
00:27:48.960 --> 00:28:18.700
Laura Tolkoff: Um, but effectively you know It's a bottom-up process and we end up um committing to projects often before we really can under. Ah, that are very levels of detail in their planning process. Um, So it's a very uneven comparison process. Um! And we end up with projects that you know we are not necessarily seeing their network benefits at the time that we commit to them, and it's often a very early

105
00:28:18.710 --> 00:28:38.579
Laura Tolkoff: and again going back to that point in which we don't necessarily have a lot of planning or rigor in cost estimation, or what the project is um. So what we're advocating for effectively is stronger network planning at the regional level and letting that really guide what it is that we commit to building.

106
00:28:38.730 --> 00:29:08.300
Laura Tolkoff: Another thing. Um, that we recommend. Um in terms of stronger network. Planning is actually having external project oversight, and that project oversight can take a number of different forms, so it can take the form of an ongoing peer review. Um. It can also take the the form of a stage, a process So a stage date process is a global best practice. It's effectively a check and balance system at different points in a project's life cycle,

107
00:29:08.310 --> 00:29:12.709
Laura Tolkoff: in which the agency or the project Sponsor

108
00:29:12.720 --> 00:29:41.710
Laura Tolkoff: has to produce certain assessments and deliverables before it can, in order to prove that it is ready to move to the next stage in its project life, cycle. And so there's a lot more emphasis here on kind of planning before you get to more single option development. You know your preferred alternative and doing detailed design. And it's really a system that helps to overcome effectively what is

109
00:29:41.720 --> 00:29:59.090
Laura Tolkoff: in and path dependence. So this is a slide that I'm borrowing from Karen Traffick, who is an academic at Uc. Berkeley, who has done a lot of work on Mega projects in particular on the bay bridge.

110
00:29:59.100 --> 00:30:29.080
Laura Tolkoff: And so one of the root causes that numerous academics have written about is the challenge of lock-in and path dependence that project sponsors face when they're developing a mega project, which of course, takes um many, many years to to develop, but in which it's. Ah, it's a Blankin is a specific kind of human phenomenon in which you make an escalating commitment of decision-makers to an effective and ineffective course of action. And so it leads to things like

111
00:30:29.090 --> 00:30:58.709
Laura Tolkoff: cost and inflexibility. And so sometimes you might recognize this in defensiveness, or in continuing down a path that maybe is no longer cost-effective or doesn't result in the types of benefits that that you wanted to see. And it really occurs at multiple levels within the project, decision making structure and over the project lifecycle, and so effectively. What having a

112
00:30:58.720 --> 00:31:14.079
Laura Tolkoff: stage gate process can do is provide an outside view to really counteract that fundamental bias that we, as people all hold, and that shows up of an institutional setting over a project. Lifecycle

113
00:31:14.330 --> 00:31:43.960
Laura Tolkoff: um big idea, too, is really to expand and centralize project procurement and delivery expertise to drive public sector excellence for the delivery of the region's most significant transit projects. I'm going to speak through this a little bit just for time, and because I'm focusing more on this upstream item, but happy to ask questions. One of the things that we recommend is to develop really a center of excellence where we can accumulate expertise in products,

114
00:31:43.970 --> 00:32:07.910
Laura Tolkoff: project development, design, and delivery in the public sector. And so this would be an entity that would effectively work with project sponsors through the course of the project life cycle from initiation to delivery. Um, and really house a lot of the expertise and nimble decision making that would be needed to actually deliver the projects a bit more um cost, effectively and timely.

115
00:32:08.080 --> 00:32:38.070
Laura Tolkoff: And then, finally, as Paul noted, we recommend also removing regulatory obstacles that can add a due delay and cost and uncertainty. Certainly one of those might be around statutory exemptions or so, or um streamlined environmental certification as well you know the good news, and this feed into Kenneth's presentation is that in two thousand and twenty, one Mtc. And operators worked together to

116
00:32:38.080 --> 00:33:07.869
Laura Tolkoff: to create um. Mtc's Bay area transit transformation action plan, and in that is a set of Uh work streams really focused on the decision making and organizational structures that we need to build and operate transit much more effectively in the bay area, including with projects. So there are several work streams that are that are ongoing and starting that are aimed at getting at some of these challenges with major

117
00:33:07.880 --> 00:33:37.870
Laura Tolkoff: projects. So within the one of the topics that we talked about as having stronger kind of regional network management, and there are two processes that are already underway, a network management business case and a regional rail partnership study that start to touch on how we choose what to build and how to build them as well as upcoming. There will be a connected network planning effort which is a way of developing a service based vision for the transit

118
00:33:37.880 --> 00:33:44.589
network and helping and having that really guide our capital project decisions instead of the bottom up approach that we have now

119
00:33:44.600 --> 00:34:00.039
Laura Tolkoff: and then. You know, this major project. Advance advancement policy, you know, sits aside that, but is very much connected to these other bodies of work, and it's really focused on. You know how we prioritize

120
00:34:00.050 --> 00:34:19.820
Laura Tolkoff: projects for funding, and how uh, Mtc. Could set up this outside view to help manage risks and make sure that the projects that we build are in line with um regional policy priorities. So with that i'm going to turn it over to um to tennis.

121
00:34:22.100 --> 00:34:39.409

Kenneth Folan: Thank you, Laura, and good afternoon, everyone. I I also have uh some slides that I wanted to share with you on Kenneth fallen from the Metropolitan Transportation commission. Um! And if we could get that uh slide deck up Jessica, that'd be great,

122
00:34:40.620 --> 00:35:08.770
Kenneth Folan: and i'm going to give you some information on an effort that Laura just referred to underway at Mtc. The major project advancement policy. I'll refer to it as the math um, just to speed things up here. I I I would first say that a lot of the concepts, ideas, and recommendations that Paul and Laura had mentioned are

123
00:35:08.780 --> 00:35:30.220
Kenneth Folan: are certainly under consideration, and we've heard they've heard some of them from our commissioners. We had a workshop on this on this subject a couple of months ago. Ah! In in many of these concepts were ah brought up, so I I think we're excited. Um, for some of those recommendations to be put into the final ah products next slide, please.

124
00:35:31.660 --> 00:35:59.330
Kenneth Folan: I wanted to show you just a quick overview of the components of the map. There. There are three of them, and the funding strategy, which is essentially a list of Mega projects and programs, and it would show endorsements in funding packages in an attempt to kind of sequence

125
00:35:59.340 --> 00:36:29.319
Kenneth Folan: ah projects so that they could be full funded, and that they could move forward towards revenue service. Um. So, for example, a typical project ah of Mega project transit project in the United States. Um, let me say, in the bay area. Ah! When have a funding mix of many different sources, usually fifty percent Federal funds, twenty, five percent State funds, and twenty, five percent local or regional.

126
00:36:29.330 --> 00:36:58.939
Kenneth Folan: Um, Right now the funding environment is is quite good at the State and Federal level. Having said that as as Laura mentioned. The demand for those funds is is maybe even greater. So through the bipartisan infrastructure law, there's there's a heavy focus on the Federal capital investment Grants program. That's where big transit projects get their full funding ranked agreements. The new starts process,

127
00:36:59.050 --> 00:37:25.470
Kenneth Folan: and then the State at the State level. There's a program on the transit in their city rail program that is infused with cap and trade funding. Uh Senate Bill. One proceeds as well as some State budget funds, so that's support, too. And then, of course, at the local and regional

level, there's regional bridge toll investments as well as local measures that go into these projects, and oftentimes start them off.

128
00:37:26.190 --> 00:37:56.159
Kenneth Folan: I think today's focus is more on the other two boxes: the policy reinforcement and and the risk management, and what what exactly will inform policy and reinforcements and and risk management and Laura reference, The Regional Plan, the Plan Bay Area twenty, fifty. That's the the foundation of of the map and projects need to be adopted into the Regional Plan first, and then they could be considered

129
00:37:56.170 --> 00:38:25.660
Kenneth Folan: in the map. In how does that process work? Projects arrived there through a benefit, cost, evaluation, equity, evaluation, land use, policies, connected mobility, policies, and and other things. As Laura also mentioned some of those efforts that are currently underway related to the network management effort in examples of that sort of policy reinforcement that could

130
00:38:25.670 --> 00:38:45.290
Kenneth Folan: from those efforts and inform the map would be efforts around fair integration around way, finding at stations certain bus transit priority improvements, accessible services, rail network management and connected network planning

131
00:38:46.100 --> 00:38:48.689
Kenneth Folan: uh the the other uh

132
00:38:48.700 --> 00:39:00.139
Kenneth Folan: a project that is wrapping up at Mtc. Right now. That will also inform the map, and I did mention it as well as the rail governance study

133
00:39:00.150 --> 00:39:23.209
Kenneth Folan: that has a sort of a project, delivery component and a general real governance component. The the current approach. I think that the legacy approach that we're working with right now is individual projects delivered by a project sponsor. And I think Laura was referring to two other options, and some of the questions

134
00:39:23.220 --> 00:39:24.729
Kenneth Folan: being um

135

00:39:24.740 --> 00:39:52.240
Kenneth Folan: that that study is, what are these other options, and and for available to deliver projects? One concept is, is, should the approach be more a portfolio of projects instead of individual projects. And then another individual project, An example of the portfolio would be Um. The connections to Bart uh in downtown San Francisco, and then leaning into the Trans Bay transit center

136
00:39:52.250 --> 00:40:20.330
Kenneth Folan: and then down the the corridor uh the countering corridor to Mill Ray, and eventually to San Jose and deer it on, and that kind of portfolio of projects should should that be the lens that that the region takes on those um Laura also mentioned? Should there be a regional project, delivery authority, or or at a minimum, some sort of regional center of excellence for for project expertise. So those those could also inform the policy reinforcements here.

137
00:40:20.340 --> 00:40:34.579
Kenneth Folan: Um. Finally, I I think all of that also touches on the risk. Um, in developing a a a risk management program that really is not just a construction risk management

138
00:40:34.590 --> 00:40:42.139
Kenneth Folan: program, but at risk management, program or philosophy that starts many, many years before construction starts.

139
00:40:42.230 --> 00:40:46.530
Kenneth Folan: Finally, the timeline. For this effort we are

140
00:40:47.470 --> 00:41:08.790
Kenneth Folan: potentially going to take to the Commission for adoption in October of two thousand and twenty-two funding endorsements, because we need to meet on certain funding cycles that are coming up. But the work related to the policy reinforcements and the risk management would be later in two thousand and twenty two in early two thousand and twenty three.

141
00:41:08.860 --> 00:41:11.030
Kenneth Folan: Ah, next slide, please.

142
00:41:11.950 --> 00:41:21.719
Kenneth Folan: So again in some in summary the map, we're focused on implementing the regional plan, assisting our

143
00:41:21.730 --> 00:41:35.810
Kenneth Folan: project sponsors and partners, and delivering projects, securing, funding and developing a risk management approach that considers the projects as elements of this broader transportation and transit system.

144
00:41:35.820 --> 00:41:37.350
Kenneth Folan: Next slide, please.

145
00:41:38.770 --> 00:41:52.859
Kenneth Folan: Just a quick idea of what sort of projects are supposed to be included in the map. It would be. Megaprojects over one billion dollars

146
00:41:52.870 --> 00:42:17.490
Kenneth Folan: in tier one of our Plan Bay area. That essentially means that they're going to construction before two thousand and thirty-five and then future projects may also be listed, but primarily at this moment at least, on the funding side, just for the project development stages and then finally, programmatic categories in I don't think we can

147
00:42:17.730 --> 00:42:30.289
Kenneth Folan: make this. This is an important area that would include zero mission transition of the entire fleet in the bay area of modernizing facilities and rapid transit improvements

148
00:42:30.300 --> 00:42:43.220
Kenneth Folan: as well as Express lane and in grade separation. So this is a category where one individual project may not be a billion dollars, but as a program of projects. It's a regional priority.

149
00:42:44.200 --> 00:42:46.040
Kenneth Folan: Next slide, please.

150
00:42:48.830 --> 00:43:08.419
Kenneth Folan: So again, moving into the risk, management and policy reinforcements. Um! The The of the approach would be to to sort of stick with the basics. I when when we see projects at the regional level, you know one one

151
00:43:08.530 --> 00:43:24.859

Kenneth Folan: quick test is the cost. Too low Is the timeline too aggressive are the complexities of project delivery transparently communicated to the public to funding partners. In In

152
00:43:24.890 --> 00:43:38.530
Kenneth Folan: you know, are there areas of governance engineering, operating complexities that need to be identified and put out there and tested. And and also important is the contingency.

153
00:43:38.540 --> 00:44:08.449
Kenneth Folan: But is the contingency appropriate? And Is it at the level of a design? Is it appropriate at that level, or or should it be adjusted? Um, I I think you've heard also from Paul and Laura. This the risk management process needs to start sooner when the project is in a concept or an alternative analysis phase and not limited to the construction period. Um. And finally, the program needs to enforce the Plan Bay Area policies.

154
00:44:09.300 --> 00:44:11.279
Kenneth Folan: My next slide, please.

155
00:44:13.030 --> 00:44:25.910
Kenneth Folan: So this this is our early concepts of what the stagegate process might look like. And I think Laura put it nicely that that the stage gate is there

156
00:44:25.920 --> 00:44:50.570
Kenneth Folan: to prove the project is ready. So what would it look like? It would be a staff developing a process for review and recommendations to move between map levels. It would likely be some sort of an evaluation and recommendation that may be customized for each project to make sure the appropriate questions are being answered for each project.

157
00:44:50.580 --> 00:45:07.849
Kenneth Folan: And again, the purpose is to design the process to improve the projects, deliver more projects at a lower cost, and not to have the funding eaten up by escalation, and need to deal with cost overruns next slide, please.

158
00:45:09.110 --> 00:45:23.529
Kenneth Folan: So this is the timeline that I outlined earlier. But we are here today and welcome any input and questions from you all, so i'll turn it back to you. Laura. Thanks.

159
00:45:27.240 --> 00:45:30.590
Laura Tolkoff: Thank you so much. I really appreciate it. I think

160
00:45:30.600 --> 00:45:57.140
Laura Tolkoff: there are a lot of questions in the chat here and in the Q. And A. And some of them relate to each other. So just to kind of synthesize or put a couple together here. Um. You know One question I think that is being raised. Is whether or not we have the the right entities are making project-related decisions over the course of the project. And, Paul, i'm wondering you've done a lot of work on governance

161
00:45:57.150 --> 00:46:01.850
Laura Tolkoff: would be related to projects. It'd be great to hear your perspective on this.

162
00:46:02.490 --> 00:46:17.310
Paul Lewis (Eno Center): Yeah. And I appreciate that. And governance is a huge part of every project. The challenge with governance, of course, is that each region is unique and independent, and has its own history. That kind of informs how its governance system got to where it is,

163
00:46:17.320 --> 00:46:38.439
Paul Lewis (Eno Center): and I think it's important to include lots of different entities, I think, even in other countries we see lots of groups that are involved, and in some cases we have multiple different operators In one region. I think the key difference in what we see in other successful regions is that there's one agency or one entity that's clearly in charge of a project

164
00:46:38.450 --> 00:47:01.159
Paul Lewis (Eno Center): and making some of those critical decisions, and they set up the institutions intentionally to help build those projects. And I think that's you, Laura. You were talking a little earlier about how we we have these organizations without some of the institutional knowledge to to build projects. And part of it, too, is the fact that the organizations don't have the authorities they don't have the board structure. They don't have

165
00:47:01.170 --> 00:47:11.509
Paul Lewis (Eno Center): the ability to push some of these projects forward, and So a focus early on governance is a really critical part of a successful long-term capital program.

166
00:47:13.860 --> 00:47:43.249
Laura Tolkoff: Thank you. Um. You know. I I wonder also you know my good projects are so political and so fraud and um really every country around the world still struggles with them. They do better, but they still struggle right, and I I sometimes wonder if it's ah naive to think that you know changing the rules of the processes matter as much as we think they do. And so this is me questioning my my own myself, my

167
00:47:43.260 --> 00:47:57.819
Laura Tolkoff: own biases, right? And so I I wonder, you know. Is it not you to think that changing the rules or processes matter with something as politically fraught as this? And i'd i'd be curious to get your your your perspectives on that.

168
00:48:00.730 --> 00:48:04.089
Paul Lewis (Eno Center): Sure, I'm. I'm happy to go, or or Kenneth, if you want to jump in.

169
00:48:04.100 --> 00:48:23.169
Kenneth Folan: Ah, go ahead, Paul, You go first. Yeah, so it's a good question. I think that there's a lot that we can do without necessarily changing the rules and the processes right and and governance is one of those pieces right? Changing governance is not easy or modifying. Governance is not easy, but I think it's an important step.

170
00:48:23.180 --> 00:48:35.499
Paul Lewis (Eno Center): But there's a lot of ways. We can better work within the rules that we have, And one example that we can look at look to is the environmental review process, both at the national level and at the state level.

171
00:48:35.510 --> 00:49:03.859
Paul Lewis (Eno Center): Um! That's actually something that every country that we talk to deals with and and kind of grapples with is, how do we navigate this very complicated environmental review process that that includes talking to stakeholders and and making sure we're protecting the environment, but also making sure we're pushing um environmentally beneficial projects. Forward. And what a lot of places do that that I don't think we necessarily do as well in this country is

172
00:49:03.870 --> 00:49:13.140
Paul Lewis (Eno Center): they? They put a lot more emphasis on that early planning process, and they get some of those key decisions made

173
00:49:13.150 --> 00:49:41.490
Paul Lewis (Eno Center): earlier rather than putting a lot on to the environmental review process. Right? Some of the stakeholder and community engagement, some of the key planning decisions we tend to put on to the environmental review process which drags it out and makes it a lot more contentious than it needs to be, whereas in other countries a lot of that is already determined and finalized. And so the environmental review process is only looking at a few alternatives, and most of the big projects are big project Decisions

174
00:49:41.500 --> 00:49:42.470
Paul Lewis (Eno Center): have been made,

175
00:49:44.810 --> 00:49:47.300
Laura Tolkoff: and Kenneth, did you want to add to that.

176
00:49:47.310 --> 00:50:17.010
Kenneth Folan: Sure, I I would just give an example of a project that I uh through Mtc. Have been working as a funding partner uh, in participating in a in a um sort of oversight group there, and talking with the project manager of this mega project. Um! What one engineer stands. He stood out when we were working with them in in the project Manager told me, This is

177
00:50:17.020 --> 00:50:28.369
Kenneth Folan: the best person we have working on the project. Their focus was on utility relocation. It was someone who was gaining ten years of experience on this project

178
00:50:28.440 --> 00:50:46.370
Kenneth Folan: that person should be working on projects in the future, on utility, relocation for other agencies, and we need to be able to facilitate that, so that that person can bring that experience over and with that experience

179
00:50:46.380 --> 00:51:03.290
Kenneth Folan: Ah! In utility relocation, millions of dollars to be saved. So that idea of flexibility between public agencies loaning a engineer loaning a planner, being able to quickly move and be nimble could really help this process.

180
00:51:06.120 --> 00:51:31.850
Laura Tolkoff: So you know, one of the things that we are talking about is being nimble and going faster, and, you know, wanting to counter project delays at the same time we're also saying, Slow down. Take more time to plan. And how do you kind of reconcile? There are probably a lot of people who would look at that in a very puzzled way. Can you talk about Why, those are not counterintuitive.

181
00:51:33.130 --> 00:51:39.730
Paul Lewis (Eno Center): It's a good question, and I think it's a little bit of a delicate balance. But a lot of it is that kind of

182
00:51:39.740 --> 00:52:08.940
Paul Lewis (Eno Center): um doing your homework and and getting ready before you launch into the really complicated parts of the project, and it's and it's the the planning. It's the stakeholder buy-in. It's getting the governance right it's kind of that. That foundation, I think projects in the United States get into a lot of pressure to move forward right. They want to show results. They want to show. Hey? Look, we're We're advanced into the environmental review stage right? And there's there's some wins in doing that, We, we, you know, signed up a full funding Grant agreement with the Fta Great,

183
00:52:09.280 --> 00:52:27.810
Paul Lewis (Eno Center): but I think sometimes we need to put a little bit more emphasis on making sure we have those key decisions done early in the process, and this is where it gets tricky. We need to get general agreement, but to some points that came up earlier that you may, Laura. We have to have some flexibility

184
00:52:27.820 --> 00:52:46.380
Paul Lewis (Eno Center): to kind of change some of those decisions at the margins, so that construction can go very smoothly. But again, laying that really good foundation at the beginning is really worth it, because it often then make sure that the environmental review and the funding and the construction can go Really, really seriously.

185
00:52:50.430 --> 00:53:20.270
Laura Tolkoff: You know one of the things also that I observe is um. We tend to to not just the cost and timeline are sometimes a challenge. But the projects that we end up building Don't necessarily realize the benefits that we that we had helped right. So, Paul, you spoke to that in your remarks that you know we focus a lot on customization, but we also tend to lose sight of some of the key project benefits until maximizes um. Sometimes that happens with root alignment

186
00:53:20.280 --> 00:53:45.789
Laura Tolkoff: that happens with other decisions, you know i'd be curious, both of your perspectives. What what I tend to observe is that in the bay area we sometimes lack that early focus on um passenger experience in project design. And i'm curious how you think we could um get more of that into our projects?

187
00:53:45.800 --> 00:53:52.070
Laura Tolkoff: Are there? Are there examples you've seen elsewhere that would help really bring that focus into the design process

188

00:53:52.640 --> 00:53:54.460
Laura Tolkoff: and delivery process.

189
00:53:55.280 --> 00:54:02.259
Paul Lewis (Eno Center): Yeah, there, there's a couple of good examples. And one that we point to a lot is the subway system that they built in Copenhagen.

190
00:54:02.270 --> 00:54:29.489
Paul Lewis (Eno Center): This was they. They started the they opened the the system in the mid two thousands. There was no subway system at all in that country. This was the first time they ever done it they they built a brand new institution to build that there was some of the the key challenges that we cite here a lack of institutional knowledge, not not a lot of experience, a new project kind of funding that was a little bit unsure. They used some value capture to to fund a lot of that project,

191
00:54:29.580 --> 00:54:40.190
Paul Lewis (Eno Center): but they they did it in a smart way, because they focused a lot on that upfront in terms of building the governance and the institution and the expertise by hire talent from around the world.

192
00:54:40.200 --> 00:54:57.969
Paul Lewis (Eno Center): And then they borrowed a lot of off the shelves technology. They used an off the shelf train set from an Italian manufacturer. They each station. If you go there, each station is identical and very similar. They use very short transits that are fully automated. So these are. These are driverless trains

193
00:54:57.980 --> 00:55:17.829
Paul Lewis (Eno Center): that are only three cars long. It kind of feels more like an airport people mover than a you know, a big New York city, or Bart or La Metro subway system, and because it's automated, the trains come every minute and a half, so they're very frequent. They make up in their capacity that way with high frequency the pre low operating costs,

194
00:55:17.840 --> 00:55:27.770
Paul Lewis (Eno Center): and because they were able to keep the station small, they were able to put them in pocket parks rather than digging out huge sections of the city. Land acquisition was very small, and So

195
00:55:27.780 --> 00:55:44.549

Paul Lewis (Eno Center): what i'm guess what I'm trying to say is, they they really standardized everything in that system, and they were able to build this brand new metro system underneath this historic city, at three hundred and fifty million dollars per mile, which is about a third of what we're building right now in terms of tunnel lines in California.

196
00:55:44.600 --> 00:56:00.429
Paul Lewis (Eno Center): Um. And so there's There's some really good examples, and part of it is just kind of getting folks to travel other places experience other systems, and get a sense of of how something like that might work in places that that we have. Now,

197
00:56:00.440 --> 00:56:17.379
Paul Lewis (Eno Center): of course, in some instances we're kind of married into the technology that we have. But again, we need to balance some of the decisions we make, because we want projects to be cheaper with some of the challenges we have of making sure transit goes to where people actually are.

198
00:56:19.310 --> 00:56:45.980
Laura Tolkoff: Thank you. And final question. And, Kenneth, maybe you also, I think this might be for both of you. Um. So the biden administration, in two thousand and twenty, announced it would prioritize shovel-worthy projects for ones that are long-term solutions um complex and expensive, but are critical for ah, but are for critical infrastructure. So how would projects like these best seek competitive funds and coordinate and collaborate between transportation agencies

199
00:56:45.990 --> 00:56:50.359
Laura Tolkoff: involved. So this is a question from the Q. And A. From Cape Powers here,

200
00:56:50.890 --> 00:56:51.919
since the

201
00:56:53.570 --> 00:56:56.489
Kenneth Folan: I. I I think that

202
00:56:56.500 --> 00:57:03.850
Kenneth Folan: part of That question from Kate is exactly what we're trying to address as part of the map

203
00:57:03.860 --> 00:57:32.929

Kenneth Folan: at Mtc. In in really being realistic about the targets. Ah, the the funding target we can get from the Federal government, the State government, and the local sources. And then, seeing the ah, the stable of projects that we have in. Is there a way to intelligently sequence and prioritize, so that we can deliver the best network that we can deliver with the funding that we have

204
00:57:32.940 --> 00:57:39.309
Kenneth Folan: those include difficult choices, and that's part of our

205
00:57:39.420 --> 00:57:59.250
Kenneth Folan: putting levels of of projects and having this stagegate process in between. So I think that we have the work cut out for us. But if we could deliver a a portfolio of projects and demonstrate a um approach, that sequence is, we likely will have more success

206
00:58:02.130 --> 00:58:15.690
Paul Lewis (Eno Center): that well said, and I think, too, just just as a quick note here, just Laura was talking earlier about how one of the reasons why we had to tackle this problem, and not only prioritize projects, but find ways to reduce their cost, is, we only have a limited amount of money,

207
00:58:15.700 --> 00:58:34.119
Paul Lewis (Eno Center): and when we can really focus our efforts on bringing costs down, we can do more with the funds that we have, whether it's through the Ija or through local money now is really the time to start thinking about this strategically, so that we can set ourselves up for success.

208
00:58:35.040 --> 00:59:02.309
Laura Tolkoff: Thank you. Um, I I see that we're at the end of our time. So I want to thank our speakers here. Thank you, Kenneth and Paul, and thank you to um. Everyone who's joined us. Um, during your lunch today to to talk about um mega projects. So really appreciate your participation. And um thank you for joining us. And um! There will be more events like this. So keep your eyes out. Um for events, Calendar. So thank you so much.

209
00:59:02.700 --> 00:59:03.720
Laura Tolkoff: Take care.