

1 TEACHERS' RETIREMENT SYSTEM OF THE CITY OF NEW YORK

2

3 BOARD MEETING

4

5

6 September 18, 2025

7 3:39 p.m.

8

9 Teachers' Retirement System of New York
10 55 Water Street, 16th Floor
11 New York, New York 10031

12

13

14

15

16

17

18

19

20

21

22

23

24 William Montague
25 Digital Reporter
 Notary Commission No. 01MO0009174

1 BRENIDA PARSONS, TRS
2 MARIELLE ALI, TRS
3 MAREK TYSZKIEWICZ, CHIEF ACTUARY
4 ISAAC GLOVINSKY, TRS
5 DARREN TROTTER, LAW DEPARTMENT
6 MARTA ROSS, LAW DEPARTMENT
7 GATI DALAL, LAW DEPARTMENT

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

1 (The proceedings commenced at 3:39 p.m.)

2 MS. REILLY: Good afternoon. Welcome to the
3 Board Meeting of the Teachers' Retirement Board for
4 September 18th, 2025.

5 I'll start by calling the roll.

6 Bryan Berge?

7 MR. BERGE: Bryan Berge representing Mayor
8 Eric Adams, present.

9 MS. REILLY: Thomas Brown?

10 CHAIRMAN BROWN: Good afternoon. Present.
11 Thank you, Patricia.

12 MS. REILLY: Anthony Giordano?

13 MR. GIORDANO: Present, representing PEP Chair
14 Gregory Faulkner.

15 MS. REILLY: John Dorsa?

16 MR. DORSA: John Dorsa, designee for
17 Comptroller Brad Lander, present.

18 MS. REILLY: Victoria Lee?

19 MS. LEE: Present.

20 MS. REILLY: Christina McGrath?

21 MS. MCGRATH: Good morning, Patricia.
22 Present.

23 MS. REILLY: Now, we have an update on TRS
24 Operations from Kavita Kanwar.

25 MS. KANWAR: Thank you, Patricia.

1 Good afternoon. Summer retirements,
2 approximately 1,400 members retired over the summer with
3 a retirement date in July or August. 97 percent of
4 these members are now receiving payments, including 69
5 percent who are receiving a finalized benefit as of
6 September payroll.

7 Regarding our Chapter 551, TRS has welcomed
8 almost 2,200 new members as a result of Chapter 551, a
9 law that made all UFT titles eligible for TRS
10 membership. About 300 new members have decided to join
11 TRS, and nearly 1,900 members have elected to transfer
12 their membership from BERS to TRS, as provided by
13 Chapter 551. TRS is working closely with the Board of
14 Education Retirement System on the membership transfers.

15 Thank you.

16 CHAIRMAN BROWN: Thank you, Kavita. Could you
17 send that to us electronically?

18 MS. KANWAR: Yes.

19 CHAIRMAN BROWN: Thank you.

20 MS. KANWAR: Yes.

21 CHAIRMAN BROWN: Much appreciated.

22 MS. REILLY: Thank you.

23 Next, is the Executive Director's Report, and
24 the first item on the agenda is the next meeting, which
25 has been scheduled for Thursday, October 16th, 2025, so

1 mark your calendars.

2 The next is the Comptroller's -- authorization
3 to the Comptroller of --

4 MR. DORSA: Please skip to the resolved.

5 MS. REILLY: Could I get the name of the
6 resolution out?

7 MR. DORSA: Oh, sorry.

8 (Laughter.)

9 MS. REILLY: Authorization to the Comptroller
10 of the City of New York to Invest Certain QPP Funds.

11 MR. DORSA: Now, may we skip to the resolved?

12 MS. REILLY: Thank you. I don't see any
13 resolves.

14 MS. BUDZIK: This is waive the reading.

15 MR. DORSA: Oh, I'm sorry, that's right.

16 Let's waive the reading, as we do this every quarter.

17 MS. REILLY: Okay.

18 MR. DORSA: Sorry.

19 MS. REILLY: Okay. I'll waive the reading.

20 CHAIRMAN BROWN: Great. So do I have a motion
21 to approve the Comptroller's Authorization to Invest QPP
22 Funds for TRS.

23 MS. LEE: So moved.

24 CHAIRMAN BROWN: And is there a second?

25 MS. MCGRATH: Second.

1 CHAIRMAN BROWN: Great. Any discussion?

2 Questions? Great, we're ready for a vote.

3 All those in favor of allowing the Comptroller
4 to invest our QPP funds, please say aye?

5 (Ayes were heard.)

6 CHAIRMAN BROWN: Those opposed, say nay?
7 Abstentions?

8 And this has been approved. Thank you.

9 MR. DORSA: Thank you on behalf of the
10 Comptroller's Office.

11 CHAIRMAN BROWN: Thank you, John.

12 MS. REILLY: Next is the authorization to the
13 Comptroller of the City of New York to Invest Certain
14 Tax Deferred Annuity Funds.

15 MR. DORSA: Please waive the reading.

16 CHAIRMAN BROWN: And do I hear a motion?

17 MR. GIORDANO: So moved.

18 CHAIRMAN BROWN: It's been moved. Is there a
19 second?

20 MS. MCGRATH: Second.

21 CHAIRMAN BROWN: So we're voting to give
22 authorization to the Comptroller to invest our TDA
23 funds. Questions? Statements? Comments. Great.

24 All those in favor, say aye?

25 (Ayes were heard.)

1 CHAIRMAN BROWN: Those opposed, say nay?
2 Abstentions?

3 And this has been approved as well. Thank
4 you.

5 MR. DORSA: Thank you again on behalf of the
6 Comptroller's Office.

7 CHAIRMAN BROWN: Thank you, John.

8 MS. REILLY: Next is the reso for the loan
9 service charge for QPP Tier 3, 4, and 6, and for TDA
10 loans.

11 MS. MCGRATH: Please skip to the resolved.

12 MS. REILLY: Resolved that, effective December
13 1st, 2025, the loan service charge shall be \$55 for Tier
14 3, 4, and 6 QPP loans and all TDA loans; and be it
15 further resolved that the QPP and TDA loan service
16 charge shall next be reviewed in three years in the fall
17 of 2028.

18 CHAIRMAN BROWN: Great, thank you.

19 Do I hear a motion to move this resolution?

20 MS. LEE: So moved.

21 CHAIRMAN BROWN: It's been moved. Is there a
22 second?

23 MR. DORSA: Second.

24 CHAIRMAN BROWN: Any discussion? Questions?

25 So all those in favor to approve the loan

1 service charge for the QPP funds, Tiers 3, 4, and 6, and
2 TDA loans, please say aye?

3 (Ayes were heard.)

4 CHAIRMAN BROWN: Those opposed, say nay?
5 Abstentions?

6 And this reso has passed. Thank you.

7 MS. REILLY: Next is attendance at a
8 conference. The following resolution is presented for
9 consideration and possible adoption.

10 MS. MCGRATH: Please skip to the resolved.

11 MS. REILLY: Thank you.

12 Resolved that the Trustees of the Teachers'
13 Retirement Board hereby approve the attendance or
14 participation of the Executive Director and/or her
15 designees, and any interested Trustee, at the National
16 Conference on Public Employee Retirement Systems, NCPERS
17 2025 Accredited Fiduciary Program and the 2025 Fall
18 Conference from October 25th through the 29th, 2025.

19 CHAIRMAN BROWN: Is there a motion?

20 MR. DORSA: So moved.

21 CHAIRMAN BROWN: And is there a second?

22 MS. LEE: Second.

23 CHAIRMAN BROWN: Any discussion? Questions?

24 So we're voting to approve attendance at the
25 NCPERS Conference, Fall Conference.

1 All those in favor, say aye?

2 (Ayes were heard.)

3 CHAIRMAN BROWN: Opposed, say nay?

4 Abstentions?

5 And this reso has passed as well. Thank you.

6 MS. REILLY: Next is the calendar, and first
7 item is the approval of the following minutes.

8 MS. LEE: Please waive the reading.

9 CHAIRMAN BROWN: All right. The minutes are
10 for June 12th, 2025, Investment Meeting minutes; June
11 23rd, 2025, Special Investment Meeting minutes; June
12 26th, 2025, Board Meeting minutes.

13 MR. DORSA: So I'll make a motion to adopt all
14 three as the suite of minutes.

15 MS. REILLY: Okay.

16 CHAIRMAN BROWN: Thank you. And is there a
17 second?

18 MS. LEE: Second.

19 CHAIRMAN BROWN: Great. Any discussion?
20 Questions? So what we're doing now, we're voting to
21 accept the Investment Meeting minutes of June 12th of
22 this year, the Special Investment Meeting minutes of
23 June 23rd of this year, and the Board Meeting minutes of
24 June 26th. We're voting on all them.

25 All those in favor of accepting these, please

1 say aye?

2 (Ayes were heard.)

3 CHAIRMAN BROWN: Those opposed, say nay?

4 Abstentions?

5 MR. GIORDANO: One abstention, Mr. Chair, just

6 because I wasn't here.

7 CHAIRMAN BROWN: Okay. So the minutes have

8 been approved. Thank you.

9 MS. REILLY: So next are the calendar items

10 from July 2025 through September 2025. You have all

11 received your electronic copy of those calendar items.

12 So I'll go ahead and read them.

13 MS. MCGRATH: Please waive the reading.

14 CHAIRMAN BROWN: Great. So we are going to

15 entertain a motion to accept the calendar items.

16 MS. LEE: So moved.

17 CHAIRMAN BROWN: It's been moved. Do I hear a

18 second?

19 MS. MCGRATH: Second.

20 CHAIRMAN BROWN: Any questions? Great.

21 So we're voting to accept the calendar items

22 from July 2025 through September 2025.

23 All those in favor of accepting the calendar

24 items, please say aye?

25 (Ayes were heard.)

1 CHAIRMAN BROWN: Opposed, say nay? And
2 abstentions?

3 The calendar items have been accepted and
4 approved. Thank you.

5 MS. REILLY: Under Other Business, we have
6 finalized the date change of the April 2026 Board
7 Meeting from April 30th to April 23rd. I just want make
8 everybody aware.

9 CHAIRMAN BROWN: Thank you, Patricia.

10 MS. REILLY: I'm going to be finalizing that.

11 MR. DORSA: So note that.

12 MS. REILLY: Thank you.

13 CHAIRMAN BROWN: Thank you.

14 MS. REILLY: And next, we have a TRS
15 presentation, Leveraging Automation to Drive Quality,
16 that will be given to us by Anthony Mortello.

17 MR. MARTELLO: Alla Nayda.

18 MS. REILLY: And Alla Nayda, excuse me.
19 Sorry, Alla.

20 MR. MARTELLO: Okay. Good afternoon,
21 everybody.

22 CHAIRMAN BROWN: Good afternoon.

23 MR. MARTELLO: It's a pleasure to be here.
24 Thank you for spending a couple of minutes with us,
25 giving us the opportunity to talk about automation and

1 testing.

2 My name is Tony Martello. I am the Deputy
3 Director of the Quality Center of Excellence Unit that's
4 organized under the Office of Operations.

5 Here with me is Alla Nayda. Alla is in charge
6 of our Compliance Testing team, which is basically
7 responsible for systems and security certification,
8 automation testing, and performance certification.

9 Before we begin, we'd just like to introduce
10 ourselves. I have been with TRS a little bit less than
11 six years. Prior to this engagement, I spent the better
12 part of three-plus decades in the private sector working
13 for a financial institution in the same capacity,
14 quality assurance and testing.

15 At this time, Alla, do you want to come up and
16 just tell us a little bit about yourself as well?

17 MS. NAYDA: Good afternoon, everyone. My name
18 is Alla Nayda.

19 I joined TRS in 2020, so it's like five-plus
20 years with TRS. I work with Tony. I report to Tony.

21 As Tony mentioned, I am leading three teams,
22 Automated Testing, Security Testing, and Performance
23 Testing.

24 I came from also private sector, from
25 financial services and banking, where I implemented

1 quality assurance policies to support automated testing
2 and compliance testing.

3 Tony, back to you.

4 MR. MARTELLO: Okay. If we can get into the
5 content, can we go to the next slide, please?

6 MS. REILLY: Who's doing your slides?

7 MR. MARTELLO: I'm sorry?

8 MS. REILLY: Who's doing your slides?

9 MR. MARTELLO: Liz was. Liz was doing them.
10 If we can go to the next slide? Okay, thanks.

11 So what you're looking at here is basically
12 our process. We are responsible for certifying all
13 software and hardware changes to all of the requests
14 that come into our unit prior to production
15 implementation.

16 As we had mentioned, we do functionality
17 testing, or business scenario testing, and
18 certification, performance testing, and security
19 testing.

20 If I can call your attention to that line in
21 the middle of the page, it's not the e-train, but it's
22 basically our filter, our process by which, when we
23 process all of the requirements that come into the
24 testing organization, it's a tried and true process
25 that, by the time it starts and by the time it exits,

1 that culminates with a production implementation, we
2 would have put all of the business requirements through
3 a rigid process that ensures that, when it's loaded into
4 production, when the functionalities are loaded into
5 production, it's as clean as possible.

6 The red blocks here that you see is basically
7 the crux of our process. We alter test scripts and we
8 execute them manually and via an automated process. As
9 we go through the process of testing the software, if
10 there are issues, we open up the issue and we run it by
11 our technology team, who will fix them, and redeploy it
12 into our environment test, and then get ready for the
13 next test execution.

14 At the end of our process, we sit with our
15 business partners in the agency and we co-agree on
16 deploying the package into production.

17 At the end of the day, our takeaway is QCOE
18 ensures every release meets expectations with fewer
19 defects and faster delivery. This process is for all of
20 the projects that come into QCOE, whether it's the
21 modernization project that we're working on, which is a
22 major conversion or migration project where we're
23 lifting and shifting all of the hardware and software,
24 and business features, business functionality, from our
25 existing applications, migrating to the new application.

1 This process also supports ad hoc projects, or
2 defined projects, say like 1099 projects, compliance
3 projects that come at the end of the year.

4 But I want to focus on the test cases, manual
5 and automated test cases. Manual test cases are simply
6 those. We have someone that sits in front of a
7 keyboard, in front of a terminal, and executes line by
8 line the business feature. When they are complete, they
9 pass or fail it, and it takes -- it just continues this
10 process.

11 The automated test script is basically the
12 same thing, but it's automated. It's captured and it's
13 stored to a file. The beauty about automation is we can
14 copy it to multiple test cases, we can run it
15 individually, we can run it at any time, and we can run
16 a whole bunch of automated test cases at any time during
17 the day. In fact, we can have a nice casual
18 conversation about talking the beauties of automated
19 testing while we're doing our job at the same time.

20 We have found that the automated process
21 allows us to do a lot of good things, including save
22 time, save money, and position us to do more research on
23 testing tools on a day-by-day basis.

24 What's the strategic value of automated
25 testing? Why automated testing is important to our

1 business, well, it accelerates the time to market. We
2 could bulk a whole bunch of test cases, run them
3 automatically, execute it to production, because of the
4 way that we can execute in a very rapid fashion.

5 Remember if we're doing it manually, we're
6 sitting at a terminal and we're executing line-by-line,
7 and then we go to the next test case and the next one,
8 the next one.

9 Reduces testing costs. It increases
10 efficiency to unsupervised testing. Additionally,
11 instead of -- in addition to automating, say, the front
12 screen, the Aspen application, the Mendix application,
13 in addition to doing all of that, we could use skills to
14 do file crunching, data crunching, and do file compares
15 with bulk data to supplement the traditional testing
16 process.

17 Yeah, if you want move to the next slide, Liz,
18 sorry? Let's go to the next slide. Okay.

19 Automation versus manual testing, these five
20 categories here, we have called out of our process
21 because we want to highlight the benefits of automated
22 testing versus manual testing.

23 From a test case execution scenario, automated
24 testing takes hours and minutes to set up. Manual
25 testing, takes days.

1 Coverage consistency. Automated testing is
2 repeatable and scalable. What does that mean? We could
3 increase the breadth of the business functionality, the
4 business scenarios that we could support by using an
5 automated process.

6 Manual testing is subject to human error. If
7 you think of it conceptually, you're sitting in front of
8 a terminal and you're building test case by test case,
9 line by line. If you make a mistake, you have to go
10 back and you have to start executing it all over again.

11 If I call your attention to the right side of
12 the slide, we are able to, over time, and we went back
13 and took a look at some of the numbers, we were able to
14 take our process on the manual side, increase and double
15 the amount of test cases that we run over time, but from
16 an automated perspective, we were able to do more
17 because we saved time by automation and we were able to
18 increase the breadth of the business scenarios that we
19 could cover in our execution. And in both situations,
20 you saw that we doubled the amount of test case that we
21 can execute per project.

22 Our process is nimble. It can execute if we
23 get projects on an ad hoc basis, if they're planned, any
24 size. Our process works, and by virtue of the automated
25 test cases that we have, we're able to execute

1 accordingly and still achieve the same results.

2 Maintenance overhead. Automated testing,
3 declines with optimizations. The more that we could
4 implement automated testing, the easier it is for us to
5 go back and fix test cases if we have to.

6 Strategic testing capacity. Automated testing
7 frees up time for exploratory and educates testing. By
8 virtue of using automation, we can go back and really
9 try to get queued, if you will, to do extended testing
10 from an edge case [sic].

11 We have all gone into our deferred comp and
12 looked up our balances, and when you log in, you get
13 that message in front that says, please confirm if
14 you're a robot or not a robot. That's an edge case. So
15 we are able to do that by virtue of leveraging
16 automation, which frees up time and frees up resources.

17 The takeaway is automation isn't just faster,
18 it scales testing in a way manual efforts never can. As
19 we get into this deck, we'll show you some numbers and
20 how it's improved the quality of the implementations,
21 which I think has made TRS more valuable as well.

22 Next slide, please.

23 Automation is better quality and faster
24 releases.

25 Automation growth. Let me just call your

1 attention to the right side of this slide. Down at the
2 bottom, as you see that we have grown out automation
3 scripts, and we alluded to that on a previous slide. As
4 we have grown out automation scripts over time, we have
5 seen a direct correlation of production defects
6 decrease.

7 Defect leakage, that's a key KPI for the QCOE
8 team. That's basically our bread and butter, it's what
9 keeps us going. It's what we measure ourselves by.

10 What is defect leakage? Defect leakage is an
11 issue that manifests itself in production inadvertently,
12 which should have been caught during the testing
13 process.

14 So if you notice, two years ago, three years
15 ago, we were up around the 8 percent. By virtue of
16 automation and increasing the size of the business
17 scenarios that we were able to cover, we have decreased
18 that number to a very manageable industry standard 3.1
19 percent, or so, which is outstanding, which means there
20 are no issues that are leaking in production that we
21 don't know about. We're very proud of that number.
22 That's, again, our bread and butter. That's what we
23 measure our whole team against.

24 As a result, also, of implementing automation
25 testing, we were able to go back into our script

1 database, take a look at how we defined them, and
2 literally align them to the business functions of TRS.
3 We were able to go in, take a look at all of our test
4 cases and say, okay, these are retirement based, these
5 are member accounting based, and so on and so forth, and
6 literally able to go into the database for any project
7 and determine what needs to be run. Go in, call them
8 out, get them ready, and determine whether they're
9 automated or not and manual, and that's what allows us
10 to size a project.

11 So if a project is introduced to us and they
12 ask me, they say, Tony, go size your effort, I can
13 quickly come back and say, you know what? It's going to
14 take one man week or two man weeks. Because of the way
15 that we set up our information on our database, we have
16 that level of metrics, that level of in-depth
17 information to quickly come back and render the testing
18 effort. So not only is automation allowing us to test
19 faster, it's improving quality and it's allowing us to
20 size future projects as we go forward.

21 We're no longer limited by manual capacity.
22 Automation is accelerating our coverage and quality at
23 scale. So what does this all mean, before we move on?
24 Before we move on, what does this all mean? We built a
25 foundation to automation that we feel very confident

1 about for the next generation.

2 What's next generation? AI. I think someone
3 alluded to AI. We have built a process where we hope
4 and we will and we'll prove it, that we can level out
5 process with automation. When AI manifests itself here
6 in TRS and it starts to grow, we're going to deploy our
7 processes into the AI world to see how that works, and
8 we're really looking forward to that.

9 So before I turn it over to Alla, I just want
10 to say, after she's said a few words about AI and where
11 we're going with that, we have a little bit of a treat.
12 We're going to show you an actual execution of an
13 automated test case for your viewing pleasure.

14 Alla? Thank you.

15 MS. NAYDA: Thank you, Tony.

16 Next slide, please.

17 So automation, we have it, we're running,
18 we're on it. So what's next? So the future is AI. AI
19 is everywhere. We know about it, we read about it. So
20 how AI actually connects to automated testing? In
21 general, how we can even embrace AI, given the fact that
22 we already automated, testing.

23 So there's two avenues, right now, we are
24 exploring, is to implement or to integrate AI in manual
25 testing and automated testing. What does it mean? For

1 manual testing, it's the test case creation, which
2 nothing else as outlined, user steps in a text format.
3 AI can do it for us basically within seconds, based on
4 the business requirements.

5 For automation, it's the co-generation. So we
6 explore the possibility of adding AI to help us to
7 create automated scripts and that should result in
8 developing more efficient scripts, scripts more stable,
9 and as a result, we'll be spending less time to maintain
10 the existing scripts, what we already have.

11 According to Gardner, about 70 percent of
12 enterprise testing will involve AI this way or another,
13 by 2027. So this is expectation right now which come
14 from a Gardner assessment. So that's just few words
15 about AI and how we approach it with our expectations.

16 So next slide, please. Thank you.

17 So this slide, as Tony mentioned, is a demo.
18 We recorded an automated test execution for a very
19 simple basic flow. The video will demonstrate an
20 automated test of a user, which is login and enrolling
21 in TDA Tax Deferred Annuity Program. The simulation
22 include the user making and correcting two errors, after
23 which the system confirms the contribution rate,
24 investment selection, and successful enrollment.

25 We consider this scenario as a pass. It's

1 also worth to mention what we run these automated
2 scripts on a regular basis to ensure what the year of is
3 not broken by any new application updates.

4 With that, I will try to comment the video as
5 it's progressing. So please, can we start the video?

6 (Video playing.)

7 MS. NAYDA: What you see on the screen is the
8 system is gathered information about the script that
9 happens in the background.

10 Once the information is collected, a web page
11 with login prompts will open.

12 The browser is opened.

13 So here, the user will enter a login. It's a
14 test login. It's not a real user login, and following
15 by the password.

16 All tests happened in the test environment.
17 It's not the production environment and non-production
18 data.

19 The next what you see, system confirms the
20 user credentials and asks about the contact information.
21 That's a standard prompt.

22 The next one, right now you see the user tried
23 to navigate to TDA pages and enroll in TDA Roth.

24 As we move forward, the user will be prompt to
25 enter contribution rate. In this case, it will be 10

1 percent. It's hard coded. That's part of the scenario.
2 Following by the investment distribution where the user
3 makes a mistake, corrects the mistakes. Again, it's
4 part of the scenario.

5 And following by the confirmation of
6 successful enrollment.

7 That's the page test, the last step in the TDA
8 enrollment process.

9 That's how the automated script is running.
10 Again, it's a simple scenario. It takes about two-plus
11 minute to execute the script. We can run, in parallel,
12 multi-threaded scripts in multi-threaded fashion for
13 multiple machines. So that allows us to run, I would
14 say about 20 scripts, 30 scripts simultaneously in
15 parallel.

16 And as Tony mentioned previously, we can
17 expand the breadth of covering different scenarios, make
18 sure nothing gets broken after application updates.
19 Thank you.

20 MR. MARTELLO: So what you just saw, if you
21 think about it on even grander scale, we get a request
22 that says, you know, Tony, we need to put this change
23 into production right away, or this is an ad hoc project
24 that just came down and we have got to support it. We
25 go into our handy dandy tool of automated scripts, we

1 assess what business scenario it covers, we set these
2 scripts up, and we execute them, and within, say, an
3 hour, a day, it's done. So I can very easily assess how
4 long it's going to take.

5 And this is where we hope to be more and more,
6 as we perceive here in TRS. We want to shift
7 eventually, and this will be a challenge, to almost an
8 all automated test script execution kind of scenario.
9 That will take some work, it will take some more
10 evaluation, but you see the strength.

11 And this is really a simple concept. This is
12 not very new. This is a concept that's been happening
13 for decades, but it's applicable in a very strong way
14 here because of the environment, the applications, and
15 how we're able to work with everybody to get the
16 information that we need with the right tools, in order
17 to build the scenario.

18 So with that, that comes -- we're at the end
19 of our discussion. Does anybody have any questions,
20 comments that they would like to offer at this time?

21 Sir?

22 CHAIRMAN BROWN: Bryan?

23 MR. BERGE: Sorry. I just want to understand,
24 because this is interesting, but it led in a fairly
25 abstract way, so I want to make sure I understand the

1 significance.

2 So is it the case, right, TRS has a bunch of
3 software applications, some of which are member facing,
4 some of which are internal facing. They have a number
5 of functionalities. These software applications are
6 updated from time to time. We need to make sure that
7 the updates don't create problems in the broader
8 application environment that would be first encountered
9 by members or TRS employees in some chaotic way.

10 So there exists a simulated environment, the
11 test environment, where everything about those
12 applications is replicated, and you, as the testers, can
13 go and basically have all of these interactions in a
14 number of possible scenarios, to ensure that everything
15 remains intact and functional, so that when actual users
16 are dealing with it in the actual world, everything is
17 copasetic.

18 MR. MARTELLO: Exactly right. Exactly right.

19 MR. BERGE: Okay, thank you. Thank you.

20 Yeah, because business cases and that all kind of just
21 zooms over, but I don't know, I feel like, now, I
22 understand.

23 MR. MARTELLO: When I got here to TRS, and you
24 know, we were talking about some of the resources that
25 were available, I found out that there were quite a few

1 resources that were available that, unfortunately, I
2 didn't have available in my prior role.

3 Multiple environments. When we do data, we
4 can take data from production and redact it, put it into
5 the environment, the whole file. So that's terrific.
6 That's not real world, but it happens over here, which
7 is fantastic.

8 But what you just described, sir, is a
9 situation where we have test environments that simulate
10 the production environment, and we have all the
11 applications connected to each other, including vendors
12 that we pass data to.

13 So when we test a business project, if you
14 will, we go through the scenarios, if it's in
15 production, that the applications are being used by our
16 internal members, like the people on the line, and our
17 teachers, our members, who log onto the portal. We
18 simulate that in the test environment. We have multiple
19 environments to do those kinds of tests, which is
20 terrific, that's how this business works.

21 But here in TRS, there's a lot of that, those
22 kinds of resources where we could do full testing
23 because of the ability to take data, full data, and
24 deploy it into our production environment.

25 Typically, in a typical environment, it's 20

1 percent or 30 percent and you have to bargain for that.
2 Here, they just go out, they make a request, take the
3 data, deploy it into the environment, and it's done.
4 It's redacted and it's protected and it's done, which is
5 outstanding. So what you just described is a simulation
6 of how it's connected.

7 MR. BERGE: Okay. And --

8 MS. REILLY: So for your -- oh, I'm sorry, go
9 ahead.

10 MR. BERGE: And are projects identified, like,
11 topically? Like, oh, we want to see what happens when
12 members in X scenario are trying to file for retirement
13 or something. Are they identified in terms of topics
14 that we would understand as people who are mostly
15 concerned with the member experience.

16 MR. MARTELLO: And business -- and business
17 ease. For example, if we take the high priority TDA/TDA
18 Roth project that's got to be in production by January
19 1st. The name of the project is the TDA/TDA Roth
20 Integration. So we look for the requirements that
21 explain what the essence of that project is and go
22 construct test plans, test cases, and then we vet it out
23 with all of the business users, our technology partners
24 to business.

25 We go to the SMEs that pertain to that

1 function and say, here's what we're going to test. Is
2 this what you need in these requirements? And we go
3 through case by case and we do an evaluation.

4 Once they sign off, we're all on the same
5 page, then we build the test cases automatically or
6 manually and we execute. And we raise defects, we have
7 the defects fixed, and we do that round robin of work
8 until we exercise all of the functionality via the
9 request, we're all on the same page that we exercised it
10 all, the system is working as deliberate as promised,
11 and then we concurrently, our team and the business
12 team, authorize production of limitation.

13 So it's a check and balance, we call it
14 tollgates, but it's a check and balance process. If
15 it's exercised and everybody is all on the same page,
16 you really can't make a mistake. You can't, like, not
17 miss something. I mean, it happens, but you can't,
18 like, not miss something if you follow those very
19 stringent tollgate rules and you go back and you round
20 robin.

21 Now, with that comes, you have to be very,
22 very strict on project deadlines and timelines. If
23 you're going to promise to customers that it needs to be
24 in production by say 12/31, by going through that
25 process, you've got to take that date and work backwards

1 and make sure you meet that date. That's why there's
2 work to do to make sure that everything is all taken
3 into account, certified correctly, before you implement
4 it to that day.

5 MS. REILLY: So when you develop an automated
6 test script, which is you're testing certain
7 functionality, like submitting a retirement application,
8 and you then, to automate that, you have to then develop
9 that, you actually -- it's like programming --

10 MS. NAYDA: Yes.

11 MS. REILLY: -- to develop the automation, and
12 then you have to test that --

13 MR. MARTELLO: Correct.

14 MS. REILLY: -- to make sure that your
15 automated test script is acting correctly, before, then,
16 you could start using it in a real --

17 MR. MARTELLO: Absolutely right. And at the
18 same time, test that the common code around that is not
19 inadvertently broken as a result of the --

20 MS. REILLY: Regression testing.

21 MR. MARTELLO: Regression testing.

22 MS. REILLY: Making sure you're not breaking
23 something else when you're putting this in.

24 MR. MARTELLO: Exactly right.

25 MS. NAYDA: So we're basically coding -- so

1 when developers develop an application, it results in
2 the front end pages, buttons, and input fields.

3 What we do, we take the front end and on the
4 top, there are certain tools and people skills, we build
5 additional code, what actually mimics user action. So
6 if a user then have to press a button, machine actually
7 can be instructed to press a button. If we want to
8 enter user, let's say a name or selecting option from a
9 drop-down, we can instruct machine to do it through a
10 code with our team.

11 MS. REILLY: So you are just mimicking what
12 the human would be doing manually --

13 MS. NAYDA: Correct, and the beauty of it,
14 what we can run this code any time. So if tomorrow, we
15 have new updates for the software, we can let's rerun
16 the scripts, otherwise we have to assign a person to do
17 it, make sure nothing gets broken. Instead of that,
18 machine does it and the person can do something else,
19 something more intelligent.

20 MR. GIORDANO: This seems like common sense,
21 but as we know, sense is not always common, and so I
22 would have thought this was happening, but because
23 there's different programmers or different companies
24 involved that can't have access to the other systems,
25 that's why you guys are vital for -- because you can

1 access all the data, you can synthesize that and
2 simulate that experience in reality where there's the
3 individual programmers only have access to their
4 specific area. Okay.

5 MR. MARTELLO: Absolutely right. And the
6 question that Patricia asked, right, goes a long way.
7 It goes back to technology -- automation is time --
8 costs less time, but it's less cluster because the code
9 that we use, the programming code that we're using, we
10 basically got it off the internet. It's freeware, we
11 have downloaded it, we didn't have to pay a dime for.

12 We went in and we automated 1,400 test cases
13 with that free software.

14 MR. GIORDANO: Interesting.

15 MR. MARTELLO: So we're constantly able to
16 look at that to determine if there's better code out
17 there, better software out there that we could use to do
18 this kind of work, right?

19 Any other questions from anybody else? Any
20 other comments?

21 MS. REILLY: Thank you.

22 MR. MARTELLO: Okay, thank you. Thank you
23 everybody for your time. It's a pleasure meeting you
24 all.

25 MS. REILLY: Thank you.

1 MR. BERGE: Thank you.

2 MR. MARTELLO: Thank you very much. Thank
3 you.

4 CHAIRMAN BROWN: Anthony, thank you. Alla,
5 thank you.

6 MS. NAYDA: Thank you.

7 MS. REILLY: All right. Well, that's it.

8 CHAIRMAN BROWN: So I think that comes to the
9 conclusion, we're at the conclusion of our Public
10 Agenda.

11 Does anyone have any questions or comments?
12 Okay.

13 So is there a motion to go into Executive
14 Session?

15 MS. MCGRATH: So moved.

16 CHAIRMAN BROWN: It's been moved. Is there a
17 second?

18 MS. LEE: Second.

19 CHAIRMAN BROWN: Okay. Any questions? All
20 those in favor of going into Executive Session, please
21 say aye?

22 (Ayes were heard.)

23 CHAIRMAN BROWN: All those opposed, say nay?
24 Abstentions?

25 We're now in Executive Session. Thank you.

1 (Exit Public Session; enter Executive
2 Session.)

3 CHAIRMAN BROWN: Great, thank you.

4 So I believe we are now back to Public Session
5 and we're going to have a readout.

6 MS. REILLY: Priscilla?

7 CHAIRMAN BROWN: I think Priscilla is on.

8 Priscilla, how are you?

9 MS. BAILEY: Yes. Hello, everybody.

10 CHAIRMAN BROWN: Good to see you.

11 MS. BAILEY: I'm very good. How's everyone?

12 CHAIRMAN BROWN: Good, Priscilla. Thank you.

13 MS. BAILEY: Wonderful.

14 In the Executive Session of the September
15 18th, 2025 Board Meeting, a resolution pertaining to an
16 investment matter was presented to the Board. The
17 resolution passed, details to be made public pending
18 further action and at the appropriate time. Thank you.

19 CHAIRMAN BROWN: Thank you, Priscilla.

20 And I believe that's the end of our Public
21 Session.

22 MR. DORSA: So I will make a motion to
23 adjourn.

24 CHAIRMAN BROWN: Sure. We'll entertain a
25 motion to adjourn, which has been done by John --

1 MS. MCGRATH: Second.

2 CHAIRMAN BROWN: And a second by Christina.

3 Any questions, comments?

4 All those in favor of adjourning, please say

5 aye?

6 (Ayes were heard.)

7 CHAIRMAN BROWN: Opposed, say nay?

8 Abstentions?

9 We are -- oh, before we adjourn, I'd like to
10 thank Will, our recorder, and Rich, our TRS tech person,
11 without whom this meeting would not be possible.

12 So, Will and Rich, thank you so much. And
13 with that, all those in favor of adjourning, please say
14 aye?

15 (Ayes were heard.)

16 CHAIRMAN BROWN: Opposed, say nay?

17 Abstentions?

18 We are adjourned. Thank you so much,
19 everybody.

20 (The proceedings concluded at 4:23 p.m.)

21

22

23

24

25

1 CERTIFICATE OF DIGITAL REPORTER

2

3 I, WILLIAM MONTAGUE, a Digital Reporter and
4 Notary Public within and for the State of New York, do
5 hereby certify:

6 That the foregoing proceeding is accurately
7 captured with annotations by me during the proceeding in
8 the above-titled matter, all to the best of my skills
9 and ability.

10 I further certify that I am not related to any
11 of the parties to this action by blood or marriage and
12 that I am in no way interested in the outcome of this
13 matter.

14 IN WITNESS THEREOF, I have hereunto set my
15 hand this 30th day of September 2025.

16

17

18

19

20

21

22

23

24

25

William Montague, Digital Reporter
Commission No.: 01MO0009174
Expiration Date: June 7, 2027

1 CERTIFICATE OF TRANSCRIPTIONIST

2

3 I, NANCY KRAKOWER, Legal Transcriptionist, do
4 hereby certify:

5 That the foregoing is a complete and true
6 transcription of the original digital audio recording of
7 the testimony and proceedings captured in the
8 above-entitled matter. As the transcriptionist, I have
9 reviewed and transcribed the entirety of the original
10 digital audio recording of the proceeding to ensure a
11 verbatim record to the best of my ability.

12 I further certify that I am neither attorney
13 for nor a relative or employee of any of the parties to
14 the action; further, that I am not a relative or
15 employee of any attorney employed by the parties hereto,
16 nor financially or otherwise interested in the outcome
17 of this matter.

18 IN WITNESS THEREOF, I have hereunto set my
19 hand this 30th day of September 2025.

20

21

22

23

Nancy Krakower, Transcriptionist

24

25