



Transfer Credit Information at Your Fingertips

Preliminary Findings on Use and Implementation of
CUNY Transfer Explorer

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ITHAKA S+R

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Introduction

Nationally, fewer than half of students who transfer to a four-year institution after beginning at a community college graduate with a bachelor's degree within six years.¹ A detailed analysis using administrative data from the City University of New York (CUNY) system described a “leaky” transfer pipeline with multiple stages along the way where students might fail to persist toward their goal of bachelor's degree attainment. These leaky stages include early drop-out, failing to apply to a bachelor's degree program, failing to follow through with enrollment in a bachelor's degree after admission, or failing to persist or attain a degree following transfer.² A survey showed that 41 percent of students who had transferred from an associate degree to a CUNY bachelor's degree program identified transferring credits as the stage of the transfer process that presented the biggest barrier—more so than applying to a bachelor's program, enrolling in that program, or earning good grades after transfer.³ In this transfer landscape, access to accurate and actionable transfer credit information can function as an important component of success. However, a 2023 review of transfer information available on CUNY college websites found wide disparities in the type and quality of transfer information that was shared, noting that the information was frequently “incomplete, confusing, and misleading.”⁴ The CUNY system is not unique

¹ Tatiana Velasco, John Fink, Mariel Bedoya, Davis Jenkins, and Tania LaViolet, "Tracking Transfer: Four-Year Institutional Effectiveness in Broadening Bachelor's Degree Attainment," *Community College Research Center, Teachers College, Columbia University*, 2024, <https://ccrc.tc.columbia.edu/publications/Tracking-Transfer-Community-College-and-Four-Year-Institutional-Effectiveness-in-Broadening-Bachelors-Degree-Attainment.html>.

² Kerstin Gentsch, Yoshiko Oka, Sarah Truelsch, and Alexandra Logue, "The Vertical Transfer Pipeline and Its Leaks: Tracking Students From Associate's Programs to Bachelor's Degrees," *Journal of Postsecondary Student Success* 3, no. 2 (2024): 18-55.

³ A.W. Logue, Yoshiko Oka, David Wutchiett, Kerstin Gentsch, and Stephanie Abbeyquaye, "Possible Causes of Leaks in the Transfer Pipeline: Student Views at the 19 Colleges of The City University of New York," *Journal of College Student Retention: Research, Theory & Practice*, 2022, https://academicworks.cuny.edu/gc_pubs/901/.

⁴ A. W. Logue, Chet Jordan, Matthew Townsell, Nicol Bellettiere, Rhina Torres, "Transfer Information Online: Websites and Articulation Agreements at The City University of New York," *Community College Review* 51, no. 2 (2023): 266-284, <https://doi.org/10.1177/00915521221145309>.

in the inadequacy of its website transfer information.⁵

CUNY Transfer Explorer (CUNY T-Rex) was developed to simplify the transfer of credits and represents an at-scale technology tool solution that provides transparent and up-to-date information about transfer credit equivalencies to students, faculty, and advisors. In addition to collaborating with CUNY to develop CUNY T-Rex, we undertook a mixed-methods evaluation to understand the process, conditions, and business requirements that were involved in the launch and proliferation of CUNY T-Rex, as well as to understand the behaviors, uses, and implementation of CUNY T-Rex at individual institutions and system wide. In this first of two reports, we examine the use and implementation of CUNY T-Rex and seek to answer the following questions:⁶

- 1) How do students use CUNY T-Rex? How might they use it more effectively?
- 2) How do college faculty and staff use CUNY T-Rex to support students? How might they use it more effectively?
 - a) How do advisors use CUNY T-Rex to support students? How has T-Rex supplemented their existing work of advising and supporting students?
 - b) How do faculty and staff use CUNY T-Rex to evaluate course equivalencies? How has CUNY T-Rex been used to identify gaps and inefficiencies in course equivalencies?
 - c) How do other institutional stakeholders, such as CUNY T-Rex ambassadors, rule writers, and transcript evaluators, use CUNY T-Rex?
 - d) How do administrators use CUNY T-Rex to identify obstacles to transfer, and how have administrators addressed those obstacles by adapting policy or improving practice?
- 3) How has CUNY T-Rex been implemented across CUNY colleges?
 - a) What have been the most significant barriers to implementation and scaling?
 - b) How have stakeholders sought to address and overcome these challenges?

⁵ Lauren Schudde, Dwuana Bradley, and Caitlin Absher, “Navigating Vertical Transfer Online: Access to and Usefulness of Transfer Information on Community College Websites,” *Community College Review* 48, no. 1 (2019): 3–30, <https://doi.org/10.1177%2F0091552119874500>.

⁶ Appendix I describes the data we collected and our methodological approaches in more detail.

To answer these research questions, we draw on multiple qualitative and quantitative data sources, including administrative data, website analytics, and in-depth interviews and focus groups with a variety of relevant stakeholders. Our results provide insights into the use cases and experiences of both stakeholders (institutional and system-wide) and students using CUNY T-Rex and the perspectives of institutional stakeholders regarding implementation of the tool across the CUNY system. Our analysis highlights several main takeaways:

- The most popular features of CUNY T-Rex provide information on course equivalencies between CUNY colleges by browsing particular courses or subject codes; these features are openly accessible to the public without the need for sign-in.
- Students find CUNY T-Rex particularly helpful for selecting equivalent courses from other CUNY colleges that could fulfill particular course requirements for their current program or for a reverse transfer program.
- While tools like CUNY T-Rex offer some advantages for students navigating the transfer process, they have not eliminated perceptions of the overall process as being complex, confusing, and contradictory. Students still express a general lack of confidence in the accuracy of any single information source. However, strong advisor support is essential for helping students navigate the complex transfer process by offering personalized guidance, addressing student concerns, and helping students make informed decisions.
- CUNY T-Rex has the potential to streamline administrative processes. It shows promise in improving efficiency for administrators, faculty, and staff by automating some tasks involved in updating course equivalencies and creating articulation agreements. However, full realization of these benefits requires consistent data maintenance.
- CUNY T-Rex provides a simplified view of course equivalencies and degree requirements, creating a mirror into how policy and process impacts credit mobility and revealing the accuracy of data within source systems. It has highlighted how the effectiveness of any credit mobility tool hinges on the reliability of underlying institutional processes, which often involve multiple departments including academics, admissions, the registrar, and advising.

In the remainder of this report we provide some background on the development of CUNY T-Rex and its core functionalities. Next, we provide context of transfer activity within the CUNY system. We then describe what information we can glean from website analytics about who is using CUNY T-Rex and which features they most commonly access. We draw from data collected through interviews and focus groups to discuss the use of CUNY T-Rex as perceived by its end-users, with a section dedicated to how students are using CUNY T-Rex followed by a section on how administrators, faculty, and staff are using CUNY T-Rex. We then describe the approach to implementation of the tool at CUNY colleges, along with the most commonly identified challenges faced in that implementation. Finally, we conclude with a section discussing how CUNY T-Rex has changed how stakeholders approach transfer looking forward.

CUNY Transfer Explorer

Released in May 2020, CUNY Transfer Explorer (CUNY T-Rex) was developed and launched with a goal of improving the rate at which students who transfer between CUNY's 20 undergraduate colleges are able to count their previously earned credits towards their new degree programs, ultimately increasing their likelihood of graduating and making their education more affordable. This tool, for the first time, allows anyone (inside or outside of CUNY) to see how courses at one CUNY college are treated at any other CUNY college after transfer. It also includes similar information about how courses from non-CUNY colleges, as well as trainings, exams, and other potential sources of validated learning, are treated at CUNY colleges after transfer. CUNY T-Rex provides students, faculty, advisors, and administrators with accurate, real-time data on CUNY's 1.6 million course equivalencies, program requirements, and more, aiming to help students make optimal transfer choices. From its release in May 2020 through June 2024, CUNY T-Rex had over 180,000 unique users as reported by Google Analytics.

Initially, CUNY T-Rex focused on the core functionalities of course-to-course equivalencies (credit evaluation). Over time, the tool has evolved to include additional functionalities that are intended to promote an easier and more transparent understanding of course equivalencies, non-course equivalencies, and program requirements, including how credits will be

applied toward program requirements. Table 1 describes the key features of CUNY T-Rex.

Table 1: Key features of CUNY Transfer Explorer

Functionality	Description
CUNY to CUNY by Course	Provides information on course equivalencies by showing users how a course at one CUNY college will transfer to any other CUNY college.
CUNY to CUNY by Subject	Provides information on course equivalencies by showing users how all courses within a particular subject code at one CUNY college will transfer to any other CUNY college.
Non-CUNY Courses, Trainings, and Exams	Shows users how course credits from outside of the CUNY system, exams, certificates, and other forms of validated prior learning will transfer and receive credit at CUNY.
Map Credits to CUNY Major Requirements	Allows users to enter a record of earned (or planned) courses, and/or credit for prior learning experiences, and see how the record will count towards requirements for different majors in bachelor's degree programs across CUNY.
Understand CUNY Major Requirements	Allows users to search for bachelor's program majors, minors, and concentrations and see their requirements, as well as what particular CUNY courses can be taken at one college to satisfy those requirements at a different college.
CUNY to CUNY by Transcript	Accessible with a CUNY login, allows users to access their transcript and see how their courses will transfer and apply across CUNY colleges.
Transfer Plans	Accessible with a CUNY login and targeted at community college students, allowing them to indicate their transfer plans, which prompts action from their current and prospective colleges to assist them in their transfer journey.

Transfer Equivalency Review	Accessible with a CUNY login, this feature allows designated faculty and staff to review course equivalencies and suggest new ones.
Transfer Information and Outcomes Leaderboards	A dashboard accessible to all users provides transfer student outcome and college performance metrics disaggregated by CUNY college.
CUNY Program Comparisons	This beta search tool allows users to compare Associate degree requirements at one CUNY college to Bachelor's degree major requirements at another CUNY college. The search is currently limited to six high transfer majors.

The data displayed in CUNY T-Rex is directly fed from the university's systemwide enterprise systems, primarily CUNYfirst and Ellucian Degree Works, through daily, automated extracts that are then parsed and reformatted to make them understandable and accessible to a wider audience. These daily extracts ensure that the information displayed in CUNY T-Rex is up-to-date and accurate according to the rules available in these systems of record. CUNYfirst, as CUNY's student information system (SIS) is referred to, is an implementation of PeopleSoft that serves every college in the system and is managed by the CUNY Central Office. Outside of CUNY T-Rex, students can log into their CUNYfirst account to register for courses, view their schedule and grades, and access financial aid information. On the public-facing side of CUNY T-Rex, catalog and course equivalency information is populated by the daily extracts from CUNYfirst. For users with a CUNYfirst account login, CUNY T-Rex also provides students an option to access their transcript and see how their courses transfer across CUNY. Ellucian Degree Works is CUNY's degree audit and advising system that tracks students' academic progress toward program requirements. Students can also access Degree Works separately to view their course grades, major and cumulative GPA, and see how their transfer credits are applied towards their degree. The public-facing side of CUNY T-Rex is populated by daily extracts of program requirement information from Degree Works.

Data on Transfer Activity at CUNY

CUNY is a single university, with a single board of trustees, consisting of 20 undergraduate colleges within New York City (including in Manhattan, Brooklyn, Queens, the Bronx, and Staten Island). These colleges include seven community colleges awarding exclusively sub-baccalaureate credentials such as associate degrees and certificates, 11 colleges and universities awarding exclusively bachelor's degrees or higher, and three comprehensive colleges that award both associate degrees and bachelor's degrees.

In a review of transfer policies across states and systems, researchers categorized CUNY's approach to credit mobility as a "credit equivalency system" rather than a 2+2 system or an institution-driven system.⁷ Whereas 2+2 systems fully lay out pre-major coursework for almost all majors system-wide, and institution-driven systems generally rely on institution-to-institution articulation agreements, CUNY's credit equivalency system establishes system-wide consistency for how credits will count at a transfer destination institution. If general education requirements have been met at one institution (either in whole or for any area), they will be honored at any other CUNY destination institution. In addition, some majors have established common gateway courses across the system. Moreover, CUNY policy guarantees that any CUNY course in which a student earns a passing grade at one college will be counted as at least an elective at other CUNY colleges; however, it may or may not be counted toward their intended major at the transfer destination. However, by and large, student transfer is best explained as a collection of course-to-course equivalencies from one college to another, more so than as a collection of program-to-program pathways.

Students frequently transfer between CUNY colleges as well as transfer into or out of the CUNY system. In the 2022-23 academic year,

⁷ Michelle Hodara, Mary Martinez-Wenzl, David Stevens, and Christopher Mazzeo, "Exploring Credit Mobility and Major-Specific Pathways: A Policy Analysis and Student Perspective on Community College to University Transfer," *Community College Review* 45, no. 4 (2017): 331-349.

approximately 1.6 million credits were transferred into CUNY colleges.⁸ The majority of these credits were CUNY to CUNY credit transfers. However, courses from outside the CUNY system also made up a substantial portion (29 percent) of the total transferred credits. Although the volume of credits transferred from sources other than courses was a small proportion of the total (8 percent), 17 percent of the 47,364 students who transferred in credits transferred at least one test credit and 14 percent transferred at least one other type of non-course credit. Students who transferred CUNY course credits on average transferred 38 of these credits, while students who transferred test credits (such as AP, CLEP, or Coursera credits) and other credits (such as ePermit,⁹ credit for prior learning, or military training), on average only transferred 10 credits and seven credits, respectively. Table 2 summarizes CUNY transfer activity in the 2022-23 academic year.

Table 2: Transfer activity into CUNY colleges in the 2022-23 academic year¹⁰

	Students	Courses/items	Credits
CUNY courses	27,226	343,942	1,028,437
External courses	14,398	153,281	482,138
Tests (e.g., AP, CLEP, Coursera)	8,050	25,728	84,239
Other (ePermit, study abroad, credit for prior learning, military)	6,586	13,641	43,816
Total	47,364	536,592	1,638,630

⁸ These figures are based on data and calculations provided by David Wutchiett at CUNY’s Office of Applied Research, Evaluation, and Data Analytics (OAREDA).

⁹ The ePermit process at CUNY allows students to register for classes at different CUNY institutions and receive credit for the course at their enrolled institution. Students need to meet certain eligibility criteria to receive approval for ePermit before registering for a course. More information about the ePermit process can be found here: “ePermit,” The City University of New York, <https://www.cuny.edu/about/administration/offices/registrar/resources/epermit/>.

¹⁰ The course and credit counts for CUNY and external courses in Table 2 are based on evaluated credits that have been posted by an institution in which the student subsequently enrolled.

Out of the CUNY to CUNY course transfer activity summarized in Table 2, a plurality of credits transferred (48 percent) represented vertical transfer from CUNY community colleges to CUNY bachelor's degree institutions. The remainder of transfer activity included horizontal transfer between bachelor's degree institutions (14 percent), horizontal transfer between community colleges (6 percent), reverse vertical transfer from bachelor's degree institutions to community colleges (11 percent), and other types of transfer, primarily to or from comprehensive colleges that offer both sub-baccalaureate and baccalaureate awards (20 percent).

These statistics demonstrate that CUNY serves a mobile student body who bring in credits from a variety of sources. Rather than focus exclusively on helping incoming students navigate traditional vertical transfer, CUNY T-Rex provides transparent information on how prior learning from these myriad sources (CUNY to CUNY course transfers, external course transfers, test credit, and other types of credit) equates to credits as captured by the rules in the systems of record.

Stakeholder Use of CUNY T-Rex from Website Analytics

Based on website analytics of page views, we can see that CUNY T-Rex's original features of "CUNY to CUNY by course" and "CUNY to CUNY by subject" remain by far the most widely used, together comprising more than half of the website's overall use.

Table 3 - Course pages by popularity of use, measured as percentage of views and percentage of users

Page	% of Views (7/1/2023 - 6/30/2024)	% of Users (7/1/2023 - 6/30/2024)
CUNY to CUNY by Course	28.6%	35.2%
CUNY to CUNY by Subject	25.7%	14.3%
Baruch Zicklin School of Business Explorer	3.8%	13.2%
CUNY Login (required for My Course History or Transfer Plans)	3.6%	13.1%
Non-CUNY Courses, Trainings, and Exams	3.6%	11.5%
Map Credits to CUNY Major Requirements	1.8%	6.5%
Understand CUNY Major Requirements	1.2%	3.4%
CUNY Course Catalog	0.7%	2.5%
Transfer Information and Outcomes Leaderboards	0.6%	0.7%
CUNY to CUNY by Transcript	0.5%	1.1%
CUNY Program Comparisons	0.5%	1.4%
Total number of observations	710,820	76,334

The Transfer Equivalency Review feature is a unique feature of CUNY T-Rex, designed specifically for CUNY faculty and staff. This feature is intended to make it easier for faculty and staff to collaborate in the review of course equivalency changes. Ultimately this feature is being used to improve the quality of equivalency information that is reflected in the site to the general public by facilitating updates to outdated or insufficient information. Requiring a log-in, authorized individuals can suggest course equivalency changes to their disciplinary colleagues (at their own or another CUNY college) for review, who can then approve the changes and refer them back to a rule writer who is responsible for updating course equivalencies in CUNYfirst, CUNY’s student information system. Colleges

have varied widely in their use of the Transfer Equivalency Review feature in CUNY T-Rex, with six colleges (mostly bachelor's degree institutions) using this feature frequently while the majority of CUNY institutions have so far used it rarely.

CUNY T-Rex's website analytics provide some insight into who is using the overall tool most frequently. The data are primarily provided by Google Analytics, which estimates user demographic information based on its available data and algorithms it has developed. For the time period September 1, 2023, through June 30, 2024, Google Analytics estimated that approximately 56 percent of users were aged 18-24 (the most common age for CUNY students), and 59 percent of users were female. Over the same time period, approximately 68 percent of users accessed CUNY T-Rex from a desktop computer and 32 percent from a mobile device.

Table 3 shows that the most popular features by far do not require sign-in (as opposed to the My Course History and Transfer Plans features, which do require sign-in). However, when users do sign in, we can connect their sign-in to student administrative records and obtain more detailed information about their demographic characteristics and academic behavior. Examining all students who attended any CUNY community college in the Spring 2023 semester, 2.3 percent of students had used these T-Rex sign-in features at some point by September 2023. There was some variation by college: Guttman Community College had the highest proportion of use at 3.2 percent, which may be due to the college having particularly intensive advising and a transfer-oriented mission. Additionally, there is variation by student demographic group. Compared to all enrolled students who did not use the T-Rex sign-in features, T-Rex sign-in users are slightly more likely to be White, non-Hispanic (16 percent versus 12.2 percent) or Asian/Pacific Islander (23.1 percent versus 17.2 percent) and less likely to be Black, non-Hispanic (30.5 percent versus 34.6 percent), or Hispanic (29.9 percent versus 35.5 percent). They are also more likely to be female (60.9 percent versus 57.1 percent), to have received a Pell grant in that term (64.4 percent versus 60.6 percent), and to be slightly older (on average, 25.8 years old versus 24.8).¹¹ Moreover, Spring 2023 community college students who were CUNY T-Rex sign-in users were much more likely to have transferred to a four-year college by the following Fall 2023 term (36 percent versus 8 percent), which may

¹¹ These findings are all statistically significant at the $p < 0.05$ level.

reflect the type of student who chooses to use CUNY T-Rex's My Course History and Transfer Plans features, the impact of using these features, or some combination of both.

How Students Are Approaching Transfer and Using CUNY T-Rex

We conducted six focus groups with students from Hostos Community College, Queensborough Community College, Lehman College, and Queens College to gain insights into student use, perception, and awareness of CUNY T-Rex. In general, our discussions with students revealed that navigating transfer is a complicated process with multiple decision points, that students primarily use CUNY T-Rex to find course equivalencies to fulfill specific course requirements (such as through ePermit), and that strong advisor support enhances the effectiveness of CUNY T-Rex.

Student Perceptions of Transfer

In order to understand how students were using CUNY T-Rex in their transfer planning and decision making, we first sought to understand how students were approaching transfer decisions more generally. Students enumerated multiple factors that went into their decision making about when to transfer, where to transfer, and which courses to take in preparation for transfer. Although sometimes the ease of credit transfer, especially between CUNY institutions, influences where a student opts to transfer, geography can also play a major role and significantly impact students' college choice. For many students, proximity to home was cited as a primary reason a student selected a destination college, despite it otherwise not being their first choice. For others, the number of credits the transfer institution accepted was a major influence: "It's just super easy to just transfer [my credits] in without having to get them really validated or if I need to take any classes if they don't match up to their standard."

Several students described being deterred from transferring to certain institutions with less generous evaluation policies because they did not want to waste credits they had already taken if courses would not count toward their particular major. As one frustrated student explained, “It makes you feel like you’re throwing money away because so many of them are just labeled elective, elective, elective.”

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Though simplified credit transfer (through tools like CUNY T-Rex) can make the transfer process less ambiguous, some students still described the overall transfer process as confusing to navigate. Fragmented information and lack of clarity in the foundational mechanics of transfer can contribute to this less-than-ideal experience. Many students recalled that the onus often falls on them to be proactive and ask the right questions, which can be challenging in the absence of clear communication from advisors. Some students reported positive experiences with advising, but this varied across sector and across advisor types. Students who participated in the CUNY Accelerated Study in Associate Programs (ASAP),¹² a comprehensive support program for associate degree students, praised the proactive advising they received through ASAP, citing that consistent guidance from their counselors in turn contributed to a better understanding of how their credits would transfer.

Students who received advising from general advisors didn’t echo the same sentiment, instead feeling unequipped and less confident in their decision making. The student to advisor ratio is much higher for general advisors, so it is not surprising that each student may not be able to receive the same dedicated level of support due to limited capacity. In these cases, students were more likely to prefer online resources. For example, a student explained it was helpful “if we have this information available to us on the website, because yes, we have advisors, but I guess

¹² ASAP is designed to provide extensive financial support and comprehensive direct support to associate degree students. The program aims to eliminate some of the systemic barriers students face when attempting timely degree completion or transferring. Students are assigned an ASAP coach who provides personalized advising, have access to tutoring and career development services, plus more.

the advisors have so many students to work with, it's very hard for them to always narrow down on one particular person. But if the information is there [on the website] given to you and you can go and look for it and see it, then you have no excuse.”

A substantial number of students described primarily relying on these online resources to guide their transfer decisions. These resources sometimes included CUNY T-Rex but most commonly involved search engines like Google to find the most relevant pages on college websites. One student described, “I’ll connect with one advisor, they’d sent me to another department. Then that department would send me somewhere else... I was really confused about everything...But once I started talking to other people and they were telling me, ‘Oh, why don’t you check this link out on this website?’ I’m like, ‘Oh, okay.’ So, I started to understand, and that was mainly just where I got my help from and assistance.”

Student Awareness and Trust of CUNY T-Rex

Though many students reported using search engines as a first resort to find transfer-related information, CUNY boasts a variety of different tools to assist students in planning their educational journey, whether they plan to transfer or not. These tools include the DegreeWorks audit system and DegreeWorks Transfer What-If,¹³ as well as college websites and college advisors. Tools like DegreeWorks have been long established within the CUNY system compared to the relatively newer CUNY T-Rex. Despite an extensive student-facing campaign to raise awareness and promote the use of CUNY T-Rex for transfer decision making, students’ level of awareness of the tool was mixed. Several students acknowledged having never heard of the tool, and some others had heard of it but did not have a full understanding of its purpose. Some students knew they had used some kind of tool to explore how courses might transfer to other CUNY colleges, but did not seem confident whether they had used Transfer What-If or CUNY T-Rex.

On the other hand, students who were aware of CUNY T-Rex mentioned learning about the tool primarily through word-of-mouth, either from peers or advisors. One student who had successfully transferred described

¹³ Similar to CUNY T-Rex, DegreeWorks Transfer What-If tool allows students to view how their courses will transfer and apply towards a selected major, minor, or concentration.

learning about CUNY T-Rex from an influential advisor and mentor: “The first time I heard of it was when I met [with my advisor], and he was like, ‘Okay, so you want to transfer... have you checked the amount of credits you are going to need when you transfer to this particular field? What if you want to change your major? If you transfer to the school, are they going to accept all your credits and all [that] stuff?’ So, I’m like, ‘I haven’t checked it.’ So, basically, he was all, took me through, and I realized that if I’m going to [a different bachelor’s degree institution] then I have to pick Accounting 11 and Accounting 12 again and I’m like no, it’s not going to happen, basically.”

Students who were aware of CUNY T-Rex mentioned learning about the tool primarily through word-of-mouth, either from peers or advisors.

A vote of confidence in the accuracy of CUNY T-Rex from a trusted advisor helped some students rely on it in their decision making. Although the data in CUNY T-Rex is fed directly from university source systems to provide the most up-to-date information, not all students were convinced that CUNY T-Rex was showing the most accurate information, especially those who found conflicting information amongst different sources or those faced with what they felt were implausible results. As one student who tried to use CUNY T-Rex described, “I feel like they were all giving different information. So, at that point, I felt like it was all just misleading, so... it was a little bit easier to communicate directly to an advisor that I could sit down and talk to about it because all of the websites use such different information that... it does create a bit of a worry.”

When course equivalencies are accurate and up-to-date, students have a more useful experience of CUNY T-Rex. In theory, the currency of CUNY T-Rex information allows students to rely on the information provided by the tool without having to speak directly to a departmental representative or wait for their transcript evaluation to come through (the timing of which varies substantially across CUNY institutions). However, if departments have not been regularly updating course equivalencies and program requirements in CUNYfirst and Degree Works, CUNY T-Rex will only be able to show the information as recorded in the system. Some students, finding that most of their courses would count only as blanket electives at certain transfer destinations, assumed CUNY T-Rex was inaccurate. One student described having those suspicions validated when a department granted

credit more generously than had been reflected in the online tool. Others experienced the reverse. For example, a student noted that CUNY T-Rex showed two equivalencies for a particular course they had taken elsewhere, while the articulation agreement showed only one. This student recalled being awarded credit only for the equivalency in the articulation agreement, which resulted in retaking a course that they felt they had essentially already taken elsewhere.

That said, students who had used T-Rex generally found it straightforward and user-friendly compared to other tools. Most students reported no issues with using it. One student explained, "Well, for T-Rex it was easier to see my credits compared to What-If... using T-Rex seems a lot clearer." Though CUNY T-Rex was designed to need little to no training, the website offers how-to videos that serve as guides on how to navigate the various functionalities of the tool.¹⁴

Student Uses of CUNY T-Rex

Students described two primary ways in which they used CUNY T-Rex: first, to search for specific course-to-course equivalencies to plan for course-taking decisions they were still in the process of making, and second, to determine how courses they had already taken might transfer to different destination institutions they were considering.

The most common reported use of CUNY T-Rex among students in our focus groups was to take advantage of its "CUNY To CUNY by Course" function for course-taking planning purposes, allowing them to identify equivalent courses that could take the place of a course they knew they needed for a particular program. Students who knew their desired transfer destination college and program and wanted to select courses that would count toward that future program, as well as students trying to find equivalent courses at other institutions that would count toward their current program, found this feature to be helpful. For example, one student checked CUNY T-Rex to ensure associate degree program classes would transfer to the planned bachelor's degree program before confirming course selections. The student described using CUNY T-Rex to "mostly just figure out which credits were transferable and also other credits that I might not have tried out yet to see if I could try to pick up the

¹⁴ "Help Center," CUNY Transfer Explorer, <https://explorer.cuny.edu/help>.

class... basically I was able to compare [how] my school's classes compared to [my desired transfer destination's] classes and to see which ones were available.”

Despite the lack of a dedicated "reverse transfer"¹⁵ or an ePermit function, students reported utilizing the existing T-Rex “CUNY To CUNY by Course” function quite effectively for these purposes. This function allowed students to see how credits were deemed equivalent when deciding among courses at other CUNY institutions that could help them fulfill a particular course requirement. Students described how ePermit provided a simple solution to the frustration of being unable to take a required course at their current institution in a particular term due to scheduling conflicts, course cancellations, or lack of seats. Given the proliferation of online courses within CUNY, ePermit generally does not even require traveling to a different campus to complete a requirement that was not available at their current institution.

“T-Rex was actually very useful when I tried to do ePermits. Because I could just go there, check the equivalent classes. Like easy. And then just enroll for those courses.”

Students who had used CUNY T-Rex to help them find ePermit classes to take at a second institution while still enrolled at their primary institution universally praised the tool for this purpose. Representative of this sentiment, one student summarized, “T-Rex was actually very useful when I tried to do ePermits. Because I could just go there, check the equivalent classes. Like easy. And then just enroll for those courses.” Another student described how, prior to learning about CUNY T-Rex, they had mistakenly assumed that courses with the same number (such as ENG 101) were equivalent across institutions within the system, leading to accidentally taking the same course more than once. The student elaborated, “So, that's where I just have a lot of extra credits where I don't need them, but they can be considered elective so it's okay. But then once I learned about

¹⁵ In this context, reverse transfer refers to associate-degree seeking students who transfer to a bachelor's institution before earning an associate degree, and subsequently obtain their associate degree while remaining in the bachelor's degree program.

the credit transfer explorer thing [CUNY T-Rex], that helped me. And then I learned how to select classes at other schools that would transfer back where I needed them.”

The second use of CUNY T-Rex identified in our focus groups was the "CUNY to CUNY by Transcript" feature to explore how completed or in-progress courses would transfer to different destination colleges or different destination majors. The "CUNY to CUNY by Transcript" function was sometimes described as useful when students wanted to assess credit transfer for past or current coursework, in some cases even influencing destination college choices based on transferability of past or current coursework. However, overall perceptions of this feature were more mixed; some students found the information they received confusing and sometimes preferred to use DegreeWorks Transfer What-If or to speak directly to an advisor or departmental faculty.

How Administrators, Faculty, and Staff Are Using CUNY T-Rex

Though current and potential students are the primary end-users for the CUNY T-Rex website, CUNY college administrators, faculty, and staff are also important end-users for the tool. These stakeholders reported a variety of uses, including advising students on transfer and improving the overall transfer experience by updating course equivalencies and articulation agreements. Stakeholders pointed out the tool's ability to bridge the gap between administration and faculty by streamlining processes. Specifically, the back-end Transfer Equivalency Review feature has been helping faculty and staff improve and update course equivalencies more seamlessly than in the past.

Use of T-Rex to Review Course Equivalencies

CUNY T-Rex draws on the transfer rules and program requirement information that already exist in CUNYfirst. Typically, one or several staff members on each campus, known as rule writers, maintain responsibility for updating course equivalencies and transfer rules within the CUNYfirst information system. These responsibilities may exist alongside other day-to-day responsibilities for staff in the admissions office or in the Registrar's office. Rules may need to be updated when courses are added, removed, or changed; when an incoming student's transcript evaluation reveals a course that does not yet have an appropriate rule in place; or when staff or departmental review determines a rule change ought to be made.

“It was a gap that we had, that faculty didn't really know where to look to review their equivalencies... So, this whole workflow that was created in T-Rex... I can't say enough great things about it. It's really, really useful for everybody.”

Prior to the implementation of CUNY T-Rex, this rule writing process typically occurred on an ad hoc basis. However, the Transfer Equivalency Review, a login feature in CUNY T-Rex that allows designated faculty and staff to review course equivalencies and suggest new ones, has streamlined the process for suggesting and approving equivalencies for the many CUNY colleges that have opted to use it. Through this feature, individual staff members and faculty members can be added as authorized users in one or more roles: Reviewers, Approvers, Academic Leadership, or CUNYfirst. Someone can suggest a change to a course equivalency, which then gets referred for review (typically to an academic departmental representative; multiple levels of review can be set if approval is sought from more than one stakeholder). If approved, the suggested rule change then gets referred to the rule writer (with the CUNYfirst role) to then make the change in CUNYfirst. As shown in Table 4 below, colleges have varied in their frequency of use of this feature. In our interviews, rule writers noted their appreciation of the addition of CUNY T-Rex into the process. One rule writer stated, “It was a gap that we had, that faculty didn't really know where to look to review their equivalencies. And the spreadsheets I can give them are not really the best method. So, this whole workflow that was created in T-Rex...I can't say enough great things about it. It's really, really useful for everybody.”

CUNY T-Rex also serves as a valuable reference tool for administrators, staff, and faculty as they make decisions related to course equivalencies. CUNY T-Rex has helped institutional stakeholders to identify programming errors needing correction. In one example, an administrator stated, “It was something with the ESL levels that reflects an old alignment that cannot

hold right now. So, T-Rex—you know, because when my colleague mentioned this to me, I’m like, ‘That’s not the alignment. Those courses are not equivalent.’ They were equivalent in T-Rex, so we went back to the faculty and are working on the adjustments.” CUNY T-Rex has also assisted community college departments in identifying courses that are not currently serving students well to target for refinement. That same administrator summarized, “It’s an agnostic platform. I mean, it doesn’t judge; it informs. And you know, in that sense, it’s a very helpful tool. I think it also has energized our faculty to take a look at where courses are not transferring and to which programs and why. And it’s opened up doors for us.”

Table 4 - Number of Transfer Equivalency Review suggested rule change cases by college

College	Number of Cases (1/1/2022 - 4/30/2024)
Senior College A	1,758
Senior College B	1,640
Community College A	1,444
Comprehensive College A	1,381
Senior College C	1,054
Senior College D	955
Senior College E	221
Senior College F	164
Comprehensive College B	62
Senior College G	45
Senior College H	41
Comprehensive College C	34
Community College B	33
Senior College I	28
Community College C	26

Community College D	23
Community College E	19
Community College F	10
Community College G	7

Note: CUNY has three types of colleges: Community (only offer associate degrees), Comprehensive (offer associate and bachelor's degrees), and Senior (offer bachelor's and higher degrees).

Use of CUNY T-Rex to Improve Transfer Pathways

Helping students get more credits applied to their majors at destination institutions is seen as critical to improving transfer students' graduation outcomes. To that end, CUNY T-Rex serves some of the functions of articulation agreements. Though CUNY T-Rex cannot replace all traditional uses of articulation agreements (which are critical to accreditation and departmental oversight), many stakeholders, staff and students alike, reported that the tool was an important complement to articulation agreements. Some of these stakeholders reported that CUNY T-Rex was more likely to be accurate and up to date as a source of information than articulation agreements since it is linked to the underlying data systems. One stakeholder was blunt: "These articulation agreements, they're like smoke. They just go up in the air. They're little agreements but do you know how they're coded into the system? Through course equivalencies if anything. So, it gets down to course equivalencies."

However, articulation agreements are still widely used and referenced, and CUNY T-Rex now functions as a tool to help create and update these agreements. A staff member whose office is responsible for updating articulation agreements described doing this as a continuous cycle: "There is no scheduled review process, but there is an effort to update the agreements when possible because curriculum is constantly being updated and changed." Now that CUNY T-Rex is available, the tool is used directly in the agreement creation and update process, ensuring alignment at least at the outset.

An administrator at a community college raved positively about how much CUNY T-Rex has streamlined the process of creating new articulation agreements: "Before access to T-Rex, it was all, you had to negotiate

everything... [Now, with T-Rex,] I could take our degree, plug all the courses in and look at the receiving school as to what they were already counting for, and fill out most of the articulation agreement that way. Then there's just maybe a few courses we have to talk about. So, it really accelerated the process. I could at the first meeting really present the 4-year school with an almost complete articulation agreement. So, ...it's really been great.”

Improving transfer pathways within CUNY is also a priority for stakeholders at some CUNY institutions that communicate regularly with each other. For example, the Bronx Transfer Affinity Group (BTAG) convenes individuals from Lehman College with those from nearby community colleges and other interested stakeholders. One participant in these convenings described how this collaboration, coupled with the availability of CUNY T-Rex, enabled improvements to transfer pathways, saying “When we had the broader conversation with the BTAG meeting, we learned from [the bachelor’s degree institution] that they were reigniting or revising and relaunching their public health program at the bachelor’s level in order to prepare a pipeline to their master’s level. [O]ur community health unit coordinator was able to go on T-Rex. And I relayed this information to the woman—to the dean—at [the bachelor’s degree institution] that we had done the check, and the programs actually aligned really well and very quickly that turned into a summer collaboration where three faculty members worked together to create two new courses that are identical at [our two institutions].”

Use of CUNY T-Rex to Advise and Guide Students

An important use of CUNY T-Rex among faculty and staff has been to directly assist in advising students, though some stakeholders perceived that the value of T-Rex was greater for students at community colleges than for those at senior colleges. We spoke to multiple types of advisors, some at community colleges helping students seeking to transfer out, others at bachelor colleges supporting students who had recently transferred in, and some at four-year colleges supporting pre-transfer students seeking to transfer into their institutions. The pre-transfer advisors, wherever they were situated, reported the greatest use of Transfer Explorer was in working with students. Advisors reported

preferring CUNY T-Rex to other tools when demonstrating how to check course equivalencies due to better accuracy (especially for Pathways general education requirements) and its daily data refresh, though DegreeWorks' "Transfer What-If" tool was also found useful in some cases.

A transfer advisor at a community college explained that all group sessions run by her office now always include a demo of CUNY T-Rex. This advisor stated that, in one-on-one sessions with students, "we're also talking about T-Rex and showing them where to go, how to use it, and now that we have the login option, how to log in." This advisor also described CUNY to CUNY by Course and CUNY to CUNY by Subject as the most important features. A pre-transfer advisor at a bachelor's degree institution agreed that the CUNY to CUNY by Course and CUNY to CUNY by Subject were the most important features. This advisor raved positively about CUNY T-Rex's role: "Transfer Explorer is like the AI version of me. Before Transfer Explorer, I was literally having to manually pull transfer rules from CUNY First. It was really cumbersome. Time consuming. It could be confusing at times. The biggest question my students always have when they see me is, are you going to take all my transfer credits? And how long is it going to take me once I get to [the bachelor's degree institution]?" With CUNY T-Rex, the advisor's time can now be spent on more in-depth discussions and planning with their students.

"For us, Transfer Explorer means a platform, a tool, to assist in gaining transfer students, not to help them leave us, quite frankly."

At the bachelor's-degree institutions, traditional (post-transfer) advisors were not focused on helping students learn how to transfer out of their institutions with more credits, since the colleges are primarily focused on trying to recruit new students and retain existing ones. "For us, Transfer Explorer means a platform, a tool, to assist in gaining transfer students, not to help them leave us, quite frankly," an administrator explained. Furthermore, the bachelor's degree institutions were focused on how they could improve information about transfer equivalencies in CUNY T-Rex in order to improve their college's appeal to students who might transfer in. "I think we've really done an excellent job of making sure that our course equivalencies are up to date," said a different stakeholder from the same bachelor's degree institution.

The Effectiveness of CUNY T-Rex Is Intertwined with the Quality of its Course Equivalencies

The various uses of CUNY T-Rex are dependent on an intricate web of administrative information and functions: the tool is used in conjunction with the administrative processes of evaluating transcripts, approving course equivalency changes, and rule writing—processes which all feed into each other and ultimately influence the usefulness of CUNY T-Rex to its end-users and its impact on driving improved student success.

Some colleges, cognizant of the fact that students use information about how their credits will transfer to make decisions about which destination institution to attend, have begun thinking about CUNY T-Rex as a recruitment tool, and have therefore been increasing the quality of information in CUNY T-Rex. Stakeholders at one bachelor's degree institution described making changes to lean into this competitive advantage: first, they used CUNY T-Rex to proactively look for courses that were transferring into their institution as blanket department credit and then they tried to assign these courses a specific course equivalency, which would help more prospective students count the course directly to their major. The institution also endeavored to conduct transcript evaluations more quickly after a student was admitted, rather than waiting until the student committed to attend, so that “hopefully they decide to come to us based on what they see on their evaluation.”

On the other hand, delays in updating course equivalencies in CUNYfirst could mean students are seeing outdated information on CUNY T-Rex about how their courses will actually transfer, limiting the usefulness of CUNY T-Rex as a decision-making tool. One faculty member described being in the midst of a long bureaucratic, non-electronic process to approve substantial curriculum changes in her department. Because the curriculum changes had not yet been officially approved, despite being very likely to eventually go into effect the following academic year, CUNY T-Rex would continue to show equivalencies into courses that were now expected to sunset. Unless prospective students happened to talk to the exact right person, they might be misled as to how their courses would likely end up actually transferring.

Implementation and Scaling

Though CUNY T-Rex was first publicly launched in May 2020 with an initial set of features, both the feature set and scale of implementation increased over the next several years. Institutional stakeholders described the process of increasing awareness and literacy of the tool at their campuses as well as how they overcame challenges that arose during this implementation process.

UX/UI Approach and Continuous Improvement of the Tool

A crucial component of the development of CUNY T-Rex is prioritizing user feedback through UX/UI testing. Initially launched with a limited feature set and the intuition of the development team, the tool's growing popularity led to the more formal adoption of User Experience (UX) and User Interface (UI) best practices in 2022. This iterative process involves accessibility reviews, copyediting, and user testing with both staff and students. User testing helps identify usability issues, refine design elements, and uncover any bugs. Now a cornerstone of CUNY T-Rex's development, each new functionality undergoes this rigorous testing cycle before release, ensuring the tool continues to evolve to meet the needs of its users.

A Community of Practice,¹⁶ supported through grant funding, also has provided a sounding board for ideas among institutional stakeholders using CUNY T-Rex, driving improvement of the tool. When asked about additional desired features and functionalities, one faculty member participating in the Community of Practice explained, “I mean, when I sort of dream of something, I just mention it at the Community of Practice meeting, and then, the next thing I know, I blink, and then, [a T-Rex developer] has made it happen.”

¹⁶ The Community of Practice is a group of eight CUNY and two SUNY colleges who meet monthly to discuss the development of CUNY T-Rex, and general transfer trends and practices happening locally and nationally. The community of practice is a part of the Articulation of Credit Transfer project from which CUNY T-Rex originates.

Training

CUNY T-Rex's implementation used a "train the trainer" model via the T-Rex Ambassador Network. Funded by the Robin Hood Foundation and designed by the CUNY Central Office, this approach aimed to facilitate system-wide adoption by training faculty, staff, and administrators. Each CUNY college designated CUNY T-Rex Ambassadors—individuals comfortable interacting with faculty and garnering strong rapport. As one stakeholder from CUNY Central noted: “We asked each campus to think about who they would like their lead to be and...it didn't have to be a faculty member. It should be someone who was good with faculty and comfortable with faculty and had rapport so that they could become experts and then promote it broadly on their campus.” These ambassadors received training on the tool and became responsible for on-campus training and promotion, since building faculty buy-in was critical to the success of CUNY T-Rex’s adoption. The approach to system-wide adoption has worked relatively well, though interviews with administrators involved in the design of the model revealed a desire for more time to refine the training model and campus implementation.

“I think one of the real benefits of T-Rex also is that it’s very user-friendly. It’s not fancy. It doesn’t feel cumbersome. It’s very simple for the most part.”

While the “train the trainer” model was critical in promoting CUNY T-Rex and increasing its use across colleges, the tool was designed to be as simple and as easy to use as possible without the need for any extensive training. Some administrators lauded the tool's intuitive design, suggesting minimal training was needed when asked to reflect on whether training was crucial to using the tool effectively: “I think one of the real benefits of T-Rex also is that it's very user-friendly. It's not fancy. It doesn't feel cumbersome. It's very simple for the most part. So, I hadn't really received much formal training on it. But I didn't really need it because it's very user-friendly, which I appreciate.”

However, as CUNY T-Rex transitions to a more enterprise solution for the entire system, some system-level administrators indicated a shift in perspective distinct from that expressed by institution-level stakeholders. At the system level, some have emphasized the need for ongoing and more centralized training occurring continuously throughout the year. While CUNY T-Rex’s current training approach can be characterized as a "distributed model" where training responsibility lies with individual institutions, some interviewees suggested that the system ought to take a more proactive approach, especially to ensure that new faculty, staff, and students continue to receive training as turnover occurs.

Promotion and Marketing

Following the CUNY Central Office's adoption of the tool, promotion efforts transitioned to a more system-wide approach. This included initiatives such as the Ambassador Network, CUNY T-Rex “swag” distribution (such as branded T-shirts and water bottles), and a student-focused campaign. Discussions with senior leadership also highlighted the role of internal networks such as BTAG in promoting CUNY T-Rex as discussions emerged organically about CUNY T-Rex as a tool to streamline the transfer process.

Local champions were also critical to CUNY T-Rex's initial promotion and organic growth. In the initial stages of development, most stakeholders learned about the tool through word-of-mouth or directly from those involved in its development. As the tool's popularity grew with a sustained effort to increase its use, early adopters like faculty and staff champions were crucial in raising awareness around the tool on their campuses. Colleges such as Queensborough Community College (QCC) took a proactive approach, offering workshops and collaborating with faculty to identify approvers for the Transfer Equivalency Review feature. This local leadership support was instrumental in driving initial adoption at QCC.

Despite concentrated efforts to ensure consistent promotion, the uneven distribution of promotional materials and limited approach to promotion was highlighted as a challenge. Interested stakeholders voiced not receiving timely communication about such items' availability and some suggested a year-round approach rather than semester-based campaigns. Similar sentiments were echoed by a senior-level leader who spoke about the need to coordinate different initiatives across CUNY institutions, urging the streamlining of multiple, concurrent, related initiatives ongoing throughout the system.

Implementation Challenges

Stakeholders identified several hurdles as CUNY T-Rex scales system-wide. One challenge is CUNY's diverse software landscape. Existing platforms such as CUNYfirst, DegreeWorks Transfer-What-If, and EAB Navigate serve distinct needs, leading to user fatigue and resistance to adopting another system. Such views were echoed across various levels, from central administration to rule writers responsible for data accuracy in the

underlying systems that feed data to CUNY T-Rex. One institutional stakeholder recalled that during their college's initial implementation of CUNY T-Rex, "We were all tech overloaded and learning all this new stuff... I just think there was a lot of tech fatigue." This was compounded by the timing of CUNY T-Rex's release relative to the COVID-19 pandemic. When COVID-19 shut down in-person operations in March 2020, faculty and staff had to rapidly transition to using new technological tools to facilitate remote administration of courses and services; CUNY T-Rex was launched in May 2020 during the midst of this transition.

Though CUNY T-Rex is accurate vis-a-vis CUNYfirst and DegreeWorks, there remain concerns among some faculty and staff that the information shown on its website is inaccurate, which can make establishing buy-in for promotion and marketing of the tool more difficult. This was particularly a concern among stakeholders at a community college, where a perception that not enough work had been done to update course equivalencies for incoming transfer students made faculty hesitant to promote it even for outgoing transfer students. As the community college was continuing to update incoming course equivalencies, an administrator described navigating this tension: "On our campus, the sense that the information is incorrect, we don't want to market something where the information is incorrect and then have students panic. You wanna have everything in place. At the same time, you have students that are at [our community college] that are looking to transfer out, they need to know how to be able to use this platform. So, to be able to market it that way, and then have a particular messaging going out that this is a fluid system—every day, there are changes that are being made—I think that would be a good way to present it."

Stakeholders acknowledge that the extent to which course equivalencies have been updated in the systems of record influence user skepticism about the information presented, and the challenge lies in properly communicating that the information is accurate (though not binding). As described in the previous section on student perceptions of transfer and CUNY T-Rex, this is particularly a challenge among student users who are transferring into an institution and relying on multiple and sometimes conflicting resources (such as CUNY T-Rex, Transfer What-if, information on college websites, or articulation agreements) to plan their transfer journey. CUNY is considering instituting a policy that the equivalencies shown on CUNY T-Rex when a student first enrolls at CUNY will remain in effect for that student until the student graduates or stops out for an extended

period. Such a policy could address some of users' accuracy and continuity concerns with T-Rex as equivalencies and program requirements change over time.

Lastly, faculty awareness and use has also emerged as a challenge. While awareness is increasing, advisors and administrators stressed the need for faculty to not just be aware of CUNY T-Rex but to actively utilize it. Highlighting the tool's benefits has been seen as key in these efforts. Some stakeholders even suggested policy mandates requiring faculty to invest time in maintaining equivalencies, since the tool is only as useful as the accuracy of its course equivalencies. The accuracy of course equivalencies was highlighted as particularly challenging in specific disciplines, such as accounting and computer science, where minor course variations can prevent perfect course equivalencies and seamless major transfer. These concerns underscore the need for ongoing refinement and review of the source system data that feeds CUNY T-Rex to ensure optimal transferability across all disciplines and that the data shown to end-users accurately reflects what students would receive upon formal transcript evaluation.

Looking Forward

CUNY T-Rex is a continuously evolving tool designed to address various student needs throughout their educational journeys. Since we conducted these interviews and focus groups, efforts have been undertaken to further refine and improve the tool. One ongoing effort is to integrate the Transfer Plans feature with existing advising technology tools so that advisors will have crucial information about students' intended transfer paths and academic goals. This integration will encourage proactive guidance concerning course selection—guidance that maximizes transferable credits. In a separate initiative, recognizing the growing trend of dual enrollment and diverse learning experiences, CUNY T-Rex developers have also almost completed a dedicated portal for high school students. This new addition is intended to empower high school students and their advisors to understand how their intended and accumulated college credits will transfer across different CUNY colleges, ensuring informed decisions for a seamless transition to higher education.

CUNY T-Rex has fundamentally transformed the approach to transfer within the CUNY system by making transparency the norm. This transparency sheds light on discrepancies in course equivalencies, allowing stakeholders to identify areas where adjustments should be made to ensure courses are accurately applied towards degrees and majors in ways that benefit student success. Empowered by this information, students can make more informed decisions about transfer destinations and course selection. Furthermore, CUNY T-Rex has reshaped the transfer conversation across all levels of CUNY, influencing not only individual decision-making but also informing the university's overall strategic plan.

Additionally, CUNY T-Rex is now seen as a core CUNY enterprise solution that will be essential to achieving the university's strategic goals. While currently managed by Lehman stakeholders, CUNY T-Rex is recognized as a vital tool that requires continued investment and integration into CUNY's overall strategic framework. It will be important to emphasize student-centric design in further development efforts, ensuring that the development team includes individuals with a deep understanding of student needs and challenges. Also seen as critical is providing students with early access to CUNY T-Rex resources, ideally from day one of enrollment.

Our discussions with senior level leadership revealed the importance of accurate underlying data for CUNY T-Rex to function optimally and guide students effectively. The vision, as one stakeholder described, is to move beyond a purely reactive tool to a proactive one that shapes curriculum development conversations and facilitates the identification of course equivalencies from the outset. Prior to CUNY T-Rex, faculty lacked easy access to this information, hindering collaboration and seamless transferability. The Transfer Equivalency Review feature is thus considered a strong asset, with the potential to revolutionize curriculum development by driving proactive review of course equivalencies. Furthermore, in a new initiative to integrate AI into course equivalency suggestions, CUNY envisions a future in which curriculum developers can readily find similar courses, facilitating the creation of new programs with optimal transferability and articulation agreements with accurate course equivalencies.

CUNY T-Rex is seen as a catalyst for open and candid cross-institutional discussions about transfer, solidifying a previously amorphous topic and

bringing visibility to potential challenges. One stakeholder aptly described it as "a window into institutional effectiveness." For institutions, CUNY T-Rex offers valuable insights into transfer practices at other CUNY colleges, fostering collaboration and transparency. This increased transparency, as one stakeholder noted, has "democratized the process." By making information about transfer and course equivalencies so public and accessible, CUNY T-Rex has increased the number of stakeholders actively working to improve students' transfer pathways and helped students access information that would have otherwise been opaque or unavailable.

Appendix I

Data and Methodology

This report draws on a variety of qualitative and quantitative data sources. The primary data source is a series of interviews and focus groups conducted with key stakeholders between September and December of 2023 from the system and four CUNY colleges: Lehman College, Queens College, Queensborough Community College, and Hostos Community College. This included 26 virtual interviews with 31 administrator, faculty, and staff stakeholders, including:

- Five system-level administrators at the CUNY Central Office,
- 10 individuals from ITHAKA, Lehman College, and Queens College involved in the planning and development of CUNY Transfer Explorer, and
- 16 institutional stakeholders involved in the implementation of Transfer Explorer at four CUNY institutions; these stakeholders included advisors, professors, T-Rex ambassadors, rule writers and transcript evaluators, and senior administrators.

Additionally, 24 students were interviewed across six student focus groups from the same four CUNY institutions, each representing two sides of a common vertical transfer pathway within the system. To analyze this data, interviews and focus groups were recorded and transcribed. Interviews and focus group transcripts were subsequently coded according to a set of thematic codes developed by the researchers for inclusion in this and other potential reports.

The primary quantitative data source was de-identified student administrative data that was provided by the CUNY Office of Applied Research, Evaluation, and Data Analytics and governed by a data agreement with CUNY. The business owner of CUNY T-Rex also provided access to Google Analytics and de-identified data on log-in use of CUNY T-Rex. This quantitative data was analyzed using descriptive statistics, with tests of statistical significance (t-tests or chi-square tests) conducted in certain cases when making comparisons across subgroups.