



January 6, 2023

SUBJECT: CAPITAL IMPROVEMENT PROGRAM (CIP) ALLOCATION TO CAPITAL PROJECTS

The Matrix Consulting Group was retained by the City of Miami Beach to review the current methodology used by the General Fund Capital Improvements Program (CIP) to recover costs from Capital Projects. The City of Miami Beach currently assesses a 6.5% fee to calculate the direct and indirect support associated with managing a capital project. This methodology has been in existence for over 10 years and there is no documentation behind the basis for this methodology. Therefore, the purpose of this study is to discuss options for recovering costs from capital projects based upon best practices, industry standards, and defensibility. The following memo provides a brief overview of the methodology used to conduct the analysis, the current CIP allocation methodology in place, the alternative CIP allocation options explored, the recommended methodology, and future considerations.

1 Methodology for Analysis

In this study the project team utilized a wide variety of data collection and analytical techniques. The scope of work was accomplished through the completion of the following activities:

- **Conducted Interviews with City Staff:** The project team met with CIP and Budget staff to discuss the current methodology, its use, and application.
- **Collected Data:** The project team gathered information regarding the current model, data factors such as labor hours, expenses, etc. as well as historical information to conduct a trend analysis.
- **Discussed Results with City Staff:** The project team reviewed the results of the analysis with CIP and Finance staff to determine if the proposed methodology was able to capture support more accurately as well as meet the intended goals and objectives of the study.

The objective of this analysis is to provide a clear and transparent methodology for allocating direct and indirect support to Capital projects.

2 Current CIP Allocation Methodology

The City of Miami Beach, financially and operationally, houses its Capital Project staff in a program within the General Fund known as the Capital Improvement Program. This program includes the cost of project managers that are directly working on projects as well as the manager and support staff for those engineers. To recover the cost for the direct and indirect support for capital projects, the City applies a percentage to each capital project budget.

The City's current methodology is to calculate direct and indirect support for a Capital project based upon 6.5% of the project's total budget. This 6.5% is used to charge the total direct and indirect support. Of the total direct and indirect support calculated from the 6.5%, 50% is charged during the design phase, and 50% during the construction phase. This information is tracked in an excel spreadsheet and at the end of the fiscal year the Capital Projects manager meets with staff and determines two components:

1. **Current Phase of the Project:** Design or Implementation
2. **% of Phase Complete:** Estimated percentage of the design or construction phase that has been completed that year.

Based upon these two components, the annual direct and indirect cost is calculated for each capital project. This ensures that each project only ever pays the total direct and indirect cost initially estimated (6.5%) for that project, regardless of the actual direct or indirect time spent by staff on that project. The goal is that the total direct and indirect costs calculated for each project will equal the total annual expenses for the Capital Improvement Program. Any gaps in funding are the responsibility of, and covered by, the General fund.

As discussed in the introduction, the current methodology of 6.5%, and the 50% allocation to design and construction phase is based upon institutional practice. There is no policy and / or procedure documentation regarding the basis of the 6.5%, and why it was allocated 50% to both the design and construction phase. Additionally, in the current methodology, if a project does not officially start the design phase, no administrative fee is applied, even if staff spend significant time on that project.

3 Alternative CIP Allocation Methodologies

The primary purpose of this study was to evaluate alternative methodologies based upon best practices, industry standards, and level of effort and support spent by Capital Improvement Program (CIP) staff on Capital Projects. The project team explored five different options:

- 1. Labor Hours:** In 2022, CIP staff acquired a time tracking system in which staff were able to code their time spent on individual capital projects. This methodology looked at allocating the CIP costs based upon the total hours spent per project, and presumes that the more hours spent on a project, the more direct and indirect cost that project should bear.
- 2. Project Expenses:** This methodology uses the total project expenses incurred in the previous year to approximate the proportion of direct and indirect costs that should be borne. This methodology presumes that projects that had larger expenditures required more staff oversight and support compared to those with minimal expenditures.
- 3. Project Budget:** This methodology uses the total initial project budget to approximate the proportion of direct and indirect costs that should be borne. This methodology presumes that the larger the value of the project, the more overall support is needed for that project.
- 4. 75% Labor Hours and 25% Project Expenses:** This is a hybrid methodology, which weights labor hours at 75% and Project Expenses at 25%. This presumes that the primary level of support is determined based upon hours spent by project staff, but that there is some component of weight that should be based upon those projects that expended significant monies the previous year.
- 5. 75% Labor Hours and 25% Project Budget:** This is also a hybrid methodology approach, which weights labor hours at 75%, and Project Budget at 25%. This presumes that the primary level of support is determined based upon hours spent by project staff, but that there is some component of weight that should be based upon the overall dollar value of the project, as the larger the project, the larger the level of oversight and support is needed.

These five different methodologies were reviewed with City CIP and Finance staff to determine which most appropriately reflected the level of effort spent by staff. All five methodologies are justifiable and defensible and in use by other jurisdictions.

4 Recommended Methodology

Based upon the analysis conducted, the project team recommends that the **City consider Option #1: Labor Hours**, as the recommended methodology. This methodology best reflects the level of effort based upon actual staff hours that are spent on an annual basis in managing the projects. The following table shows the annual labor hours spent in support of each current CIP project, and the resulting percentage of support:

Table 1: Labor Hours by Project

Project Name	Labor Hours	% of Support
2 WAY CONVERSION 42ND ST. SHERIDAN	0.00	0.00%
23 ST. STREETSCAPE IMPROVEMENTS	249.50	0.99%
41 STREET CORRIDOR IMPROVEMENTS	610.50	2.43%
500-600 ALTON PARK	296.00	1.18%
72 ST. COMMUNITY COMPLEX	885.75	3.52%
BAY GARDEN MANOR LINK	144.00	0.57%
BAY WALK 10TH TO 12TH STREET - MARINA	119.00	0.47%
BAYSHORE 8D - SUNSET ISLANDS 3 & 4 NEIGHBORHOOD IMPROVEMENTS	288.75	1.15%
BAYSHORE NEIGHBORHOOD - CENTRAL BAYSHORE SOUTH	26.00	0.10%
BAYSHORE SUNSET ISLANDS 3 & 4 - UTILITY UNDERGROUNDING	8.00	0.03%
BAYVIEW TERRACE LINK	142.00	0.56%
BAYWALK PEDESTRIAN BRIDGE	250.50	1.00%
BISCAYNE BEACH ADDITIONAL PARKING	279.50	1.11%
BRITTANY BAY PARK	2,359.75	9.39%
CHASE AVE/34 ST. SHARED USE PATH	379.45	1.51%
COLLINS PARK PARKING GARAGE / COLLINS PARK ANCILLARY	260.50	1.04%
COLLINS PARK PERFORMING ARTS VENUE - ROTUNDA	310.40	1.23%
CONVENTION CENTER - CARL FISHER	1,178.50	4.69%
DADE BOULEVARD SHARED USE PATH	175.25	0.70%
FIRE STATION #1	714.75	2.84%
FIRST STREET STORMWATER IMPROVEMENTS	0.00	0.00%
FLAMINGO PARK - PHASE I - PI (OLD)	922.10	3.67%
FLAMINGO PARK MASTER PLAN	809.50	3.22%
FLAMINGO YOUTH CENTER FACILITY	66.00	0.26%
INDIAN CREEK ST. DRAINAGE IMPROVEMENTS - PHASE III	2,627.25	10.45%
KAYAK LAUNCH DOCKS (DICKENS)	0.00	0.00%
LINCOLN ROAD WASHINGTON AV TO LENOX AV / CONV. CTR LINCOLN RD CONNECTION / LINCOLN RD BOLLARDS	403.75	1.61%
LOG CABIN	0.00	0.00%
LUMMUS PARK / OCEAN DRIVE CORRIDOR	70.00	0.28%
MARINE PATROL FACILITY	95.25	0.38%
MAURICE GIBB PARK	724.00	2.88%
MIDDLE BEACH RECREATIONAL CORRIDOR PH 3	1,388.55	5.52%
NOBE OCEANSIDE PARK BEACHWLK	0.00	0.00%
NORTH BEACH ENTRANCE SIGNS	242.50	0.96%
NORTH BEACH OCEANSIDE PARK RENOVATION	2,060.95	8.20%
NSPYC EXTERIOR CAFE AND RESTROOMS	244.50	0.97%
OCEAN RESCUE NOBE FACILITY	62.50	0.25%

Project Name	Labor Hours	% of Support
PALM & HIBISCUS ISLANDS ENHANCEMENTS	1,308.50	5.20%
PALM & HIBISCUS LANDSCAPING - CIP	107.50	0.43%
PAR 3/ BAYSHORE PARK	825.75	3.28%
PARKING GARAGE AT PARKING LOT P16	0.00	0.00%
PINE TREE DRIVE & 46TH STREET CIRCLE	286.50	1.14%
PRIDE PARK / CONVENTION CENTER PARK	478.20	1.90%
RUE VENDOME PUBLIC PLAZA	107.10	0.43%
SHANE WATERSPORT SEAWALL & DOCK RAMP	196.50	0.78%
SHARED PATH ON PARKVIEW ISLAND PARK (73RD-77TH)	0.00	0.00%
SOUTH BAY CLUB LINK	152.50	0.61%
STILLWATER ENTRANCE	132.45	0.53%
STORMWATER PUMP STATION AT 19TH STREET EAST OF MERIDIAN	48.75	0.19%
SUNSET HARBOR PUMP STATION #3 SCREEN	63.50	0.25%
SUNSET ISLANDS 1 & 2 GUARDHOUSE	66.00	0.26%
SURFACE LOT 01A - PENRODS AT ONE OCEAN DRIVE	79.00	0.31%
SURFACE LOT 9D (P86) - 6976 INDIAN CREEK DR.	0.00	0.00%
SURFACE LOT AT BISCAYNE BEACH / BISCAYNE BEACH SEAWAL	1,004.10	3.99%
TENT CANOPY FOR NORTH SHORE BANDSHELL	0.00	0.00%
VENETIAN ISLANDS BP13C	331.00	1.32%
WATERWAY RESTORATION	93.00	0.37%
WEST AVENUE PHASE II IMPROVEMENTS	1,465.35	5.83%
TOTAL	25,140.65	100.00%

Based upon staff time and effort, Indian Creek (10%), Brittany Bay Park (9%), North Beach Oceanside Park Renovation (8%), West Avenue Phase II Improvements (6%), Middle Beach Recreational Corridor (6%), and Palm & Hibiscus Enhancements (5%) represent the largest proportion of staff support. The remaining projects all have less than 5% of the total staff support on an individual project basis.

Recommendation #1: The City should utilize the same fiscal years' actual hours spent per project to allocate the fiscal year-end costs of the Capital Improvement Program to each project. For example, FY22 Year-End Actual Capital Improvement Program Costs should be allocated based upon FY22 hours spent per project.

5 Allocation Results

Once the recommended methodology has been determined, the City will take the actual FY21-22 Expenditures for the Capital Improvement Program and allocate them based upon the percentage of hours associated with each project. The following table shows by major cost category the total actual expenditures for FY21-22:

Table 2: Expenditures by Cost Category

Category	FY21-22 Actuals
Salaries and Benefits	\$4,269,340
Telephone	\$11,643

Category	FY21-22 Actuals
Postage and Shipping	\$17
Rent-Building & Equipment	\$67,881
Printing	\$112
Contract Maintenance	\$98,158
Supplies - Office	\$6,138
Other Operating Expenditures	\$3,852
Other Contractual Services	\$8,080
Dues & Memberships	\$918
Training & Awards	\$2,290
Uniform Expense	\$1,400
Central Services-Internal Svc	\$8,000
Property Mgmt-Internal Svc	\$70,000
Fleet Management-Internal Svc	\$74,000
Self Insurance-Internal Svc	\$229,000
Applications/ Computer Hardwar	\$248,000
OIG Funding	\$2,000
Motor Vehicles	\$272,545
TOTAL	\$5,373,373

Approximately \$4.2 million of the \$5.4 million in expenses is related to Personnel expenses. These personnel are directly spending time on managing, reviewing, and designing capital improvement projects. The next largest component of expenses are in relation to the internal service funds (\$631,000). The \$5.4 million is allocated to projects based upon percentage of (labor hour) support. The following table shows by project, the total recommended CIP Charges:

Table 3: Recommended CIP Project Charges

Project Name	% of Support	Allocated CIP Charges
2 WAY CONVERSION 42ND ST. SHERIDAN	0.00%	\$0
23 ST. STREETScape IMPROVEMENTS	0.99%	\$53,326
41 STREET CORRIDOR IMPROVEMENTS	2.43%	\$130,484
500-600 ALTON PARK	1.18%	\$63,265
72 ST. COMMUNITY COMPLEX	3.52%	\$189,314
BAY GARDEN MANOR LINK	0.57%	\$30,777
BAY WALK 10TH TO 12TH STREET - MARINA	0.47%	\$25,434
BAYSHORE 8D - SUNSET ISLANDS 3 & 4 NEIGHBORHOOD IMPROVEMENTS	1.15%	\$61,715
BAYSHORE NEIGHBORHOOD - CENTRAL BAYSHORE SOUTH	0.10%	\$5,557
BAYSHORE SUNSET ISLANDS 3 & 4 - UTILITY UNDERGROUNDING	0.03%	\$1,710
BAYVIEW TERRACE LINK	0.56%	\$30,350
BAYWALK PEDESTRIAN BRIDGE	1.00%	\$53,540
BISCAYNE BEACH ADDITIONAL PARKING	1.11%	\$59,738
BRITTANY BAY PARK	9.39%	\$504,355
CHASE AVE/34 ST. SHARED USE PATH	1.51%	\$81,101
COLLINS PARK PARKING GARAGE / COLLINS PARK ANCILLARY	1.04%	\$55,677
COLLINS PARK PERFORMING ARTS VENUE - ROTUNDA	1.23%	\$66,343
CONVENTION CENTER - CARL FISHER	4.69%	\$251,884
DADE BOULEVARD SHARED USE PATH	0.70%	\$37,457

Project Name	% of Support	Allocated CIP Charges
FIRE STATION #1	2.84%	\$152,765
FIRST STREET STORMWATER IMPROVEMENTS	0.00%	\$0
FLAMINGO PARK - PHASE I - PI (OLD)	3.67%	\$197,083
FLAMINGO PARK MASTER PLAN	3.22%	\$173,016
FLAMINGO YOUTH CENTER FACILITY	0.26%	\$14,106
INDIAN CREEK ST. DRAINAGE IMPROVEMENTS - PHASE III	10.45%	\$561,529
KAYAK LAUNCH DOCKS (DICKENS)	0.00%	\$0
LINCOLN ROAD WASHINGTON AV TO LENOX AV / CONV. CTR LINCOLN RD CONNECTION / LINCOLN RD BOLLARDS	1.61%	\$86,294
LOG CABIN	0.00%	\$0
LUMMUS PARK / OCEAN DRIVE CORRIDOR	0.28%	\$14,961
MARINE PATROL FACILITY	0.38%	\$20,358
MAURICE GIBB PARK	2.88%	\$154,742
MIDDLE BEACH RECREATIONAL CORRIDOR PH 3	5.52%	\$296,778
NOBE OCEANSIDE PARK BEACHWLK	0.00%	\$0
NORTH BEACH ENTRANCE SIGNS	0.96%	\$51,830
NORTH BEACH OCEANSIDE PARK RENOVATION	8.20%	\$440,492
NSPYC EXTERIOR CAFE AND RESTROOMS	0.97%	\$52,258
OCEAN RESCUE NOBE FACILITY	0.25%	\$13,358
PALM & HIBISCUS ISLANDS ENHANCEMENTS	5.20%	\$279,669
PALM & HIBISCUS LANDSCAPING - CIP	0.43%	\$22,976
PAR 3/ BAYSHORE PARK	3.28%	\$176,490
PARKING GARAGE AT PARKING LOT P16	0.00%	\$0
PINE TREE DRIVE & 46TH STREET CIRCLE	1.14%	\$61,234
PRIDE PARK / CONVENTION CENTER PARK	1.90%	\$102,207
RUE VENDOME PUBLIC PLAZA	0.43%	\$22,891
SHANE WATERSPORT SEAWALL & DOCK RAMP	0.78%	\$41,998
SHARED PATH ON PARKVIEW ISLAND PARK (73RD-77TH)	0.00%	\$0
SOUTH BAY CLUB LINK	0.61%	\$32,594
STILLWATER ENTRANCE	0.53%	\$28,309
STORMWATER PUMP STATION AT 19TH STREET EAST OF MERIDIAN	0.19%	\$10,419
SUNSET HARBOR PUMP STATION #3 SCREEN	0.25%	\$13,572
SUNSET ISLANDS 1 & 2 GUARDHOUSE	0.26%	\$14,106
SURFACE LOT 01A - PENRODS AT ONE OCEAN DRIVE	0.31%	\$16,885
SURFACE LOT 9D (P86) - 6976 INDIAN CREEK DR.	0.00%	\$0
SURFACE LOT AT BISCAYNE BEACH / BISCAYNE BEACH SEAWAL	3.99%	\$214,609
TENT CANOPY FOR NORTH SHORE BANDSHELL	0.00%	\$0
VENETIAN ISLANDS BP13C	1.32%	\$70,745
WATERWAY RESTORATION	0.37%	\$19,877
WEST AVENUE PHASE II IMPROVEMENTS	5.83%	\$313,193
TOTAL	100.00%	\$5,373,373

The \$5.4 million expenditures associated with the Capital Improvement Program are allocated proportionately based upon actual labor hours. Therefore, projects such as Indian Creek (10% of support) receive approximately \$561,000 in allocated CIP Charges.

It is important to note that this table identifies the total costs allocable and associated with each project. However, not all current and future capital projects may be able to afford the total identified charge. To ensure that the methodology is fair and defensible,

the costs must be allocated without regard to funding limitations associated with projects. The costs are the maximum justifiable charges to each project. If a project cannot afford that charge, the City must find an alternative means to subsidize that project.

6 Future Recommendations

The focus of this analysis was the documentation of the current methodology and to provide a basis for future operational improvements to the Capital Improvement Program. The following subsections discuss two key future recommendations:

1 Admin Fee Projection

The current methodology of 6.5% allows CIP staff to build an admin fee projection into the capital project budget. The proposed methodology is to recover CIP staff costs annually based on historical project information. The City has two options as it relates to projecting indirect costs for future capital projects:

- **Option #1: Update the indirect estimated percentage to federal de-minimis rate of 10%.** This 10% should only be used to *budget* for indirect costs, while the actual indirect charges to a project should never exceed the total amount calculated based upon the recommended methodology. This ensures that the City has sufficient funding set aside for indirect support, and that charges are based upon a defensible methodology.
- **Option #2: Develop a tiered administrative percentage.** For existing and new potential projects, the CIP Manager could utilize a tiered percentage structure that scales down as the project budget increases to estimate the administrative fee associated with managing that project.

Option #1 results in the City potentially not having sufficient funding or too much funding on particular projects as it is an estimate that is not based upon the level of staff effort needed. This option would also likely result in a similar situation as the current indirect percentage methodology.

Therefore, it is recommended that for budgeting purposes for capital projects, as part of the Capital Project Budget development, CIP staff should proceed with **Option #2 and develop a tiered administrative percentage structure**. This will ensure that administrative fees project the level of effort based upon the estimated complexity (dollar value) of the project.

The project team worked with City staff to estimate the level of staff effort that would be needed through the life of a project depending upon different project cost estimates. Based upon this, the project team developed the following tiered structure.

Table 4: Administrative Fee Tier Structure (Budgeting Purposes Only)

Tier	Estimated Dollar Value	Admin Fee
1	\$0 - \$1 million	15%
2	\$1 million - \$10 million	10%
3	\$10 million - \$25 million	5%
4	\$25 million and above	2%

The administrative fee percentage would be recommended to start at 15% for projects up to \$1 million. The percentage would slowly scale down to 2% for projects greater than \$25 million. This tiered structure ensures that appropriate support costs are captured. For example, for a \$900,000 project the administrative fee would be \$135,000 and for a \$30 million project, the administrative fee would be \$600,000. The \$135,000 may only be needed for 1-1.5 years, whereas the \$600,000 would last for the estimated 4-5 years for the larger project.

This updated tiered structure addresses the inequity issue of utilizing a singular percentage, and also demonstrates how the current 6.5% was insufficient to capture project support for projects valued less than \$10 million.

This exercise should only be for budgeting purposes. At year-end only the actual estimated support based upon actual hours spent would be billed to the project.

Additionally, these percentages have been developed based upon staff annual estimates of time, rather than actual staff time spent per project. As the City has only recently started tracking time spent managing CIPs, these tiered percentages should be reevaluated in 3-5 years, when additional and more accurate data is available on time spent managing projects.

Lastly, while the current methodology also utilized a percentage based administrative fee, it is recommended that this percentage based fee not be limited to being charged 50% in the design phase and 50% in the construction phase. The percentage based administrative fee will be used to set aside specific administrative funding for a project. The year-end actual process will draw down from that funding the moment any time is spent by staff on managing that project. If there is insufficient funding, it is recommended that a budget amendment be submitted to ensure that each project is paying for their fair share of administration costs.

Recommendation #2: A tiered administrative fee structure should be adopted for budgeting purposes only. The structure should be as follows:

- Less than \$1 million = 15% administrative fee
- \$1m - \$10m = 10% administrative fee
- \$10m - \$25m = 5% administrative fee
- \$25m+ = 2% administrative fee

At the year-end, the support based on actual hours should be assessed to the project.

Recommendation #3: The tiered percentage structure should be reevaluated in 3-5 years once additional data is available on actual staff time spent managing projects.

Recommendation #4: The tiered administrative percentage should be used as an administrative fee funding source and should be drawn down immediately based upon actual hours spent rather than be limited to 50% during design and 50% during construction phase.

2 Direct Staff Billing

The City of Miami Beach is unique compared to other jurisdictions in that engineers and staff directly working on capital projects are charged to the general fund and their cost is recovered from capital projects based upon an administrative fee. The industry best practice for Capital Improvement Programs is to have engineers and staff directly working on Capital Projects to bill directly to those capital projects. As part of this effort, the project team contacted the City of Miami (as specifically requested by the City) to determine their practice of charging to capital projects. The City of Miami also charges its engineers directly to capital projects.

The proposed methodology shift of charging out CIP costs based upon the actual hours spent essentially serves as a proxy for direct billing engineering staff. Even though it is charged under the name of an administrative fee, this is truly the CIP direct and indirect chargeback to projects. Therefore, by implementing the proposed methodology the City is moving towards aligning with best practices. In the future, if there is an opportunity, it is recommended that for any capital projects, engineers are directly budgeted in that project at the beginning of the year rather than charged back to that project. This mitigates the need for additional administrative work and is more cost effective and efficient in the long run.

Recommendation #5: The City of Miami Beach should consider long-term where appropriate to directly budget staff in capital projects at the beginning of a fiscal year.