THE PLANNING COMMITTEE
OF THE COMMON COUNCIL

125 East Avenue
P.O. Box 5125
Norwalk, CT 06856

TO: MEMBERS, PLANNING COMMITTEE OF THE COMMON COUNCIL

FROM: MATTHEW T. MIKLAVE, CHAIRMAN

DATE: JANUARY 23, 2012

RE: **MEETING NOTICE**

A Special Meeting of the Planning Committee of the Common Council will be held on **Monday, January 30, 2012 at 7:30 pm**, in the Common Council Chambers on the third floor of Norwalk City Hall. Please Note The Time And Location.

PLANNING COMMITTEE OF THE COMMON COUNCIL
January 30, 2012
7:30 PM

A G E N D A

CALL TO ORDER

ROLL CALL

PUBLIC PARTICIPATION

I. APPROVAL OF MINUTES – January 5, 2012 Regular Meeting
October 17, 2012 Special Meeting

II. BUSINESS

A. CONNECTIVITY
1. Information Session

B. CDBG
1. Review Annual Plan Process

C. WORKFORCE HOUSING
1. Update

D. WALL STREET REDEVELOPMENT PLAN
1. Review letter from Mr. Frank Farricker

E. MID FAIRFIELD AIDS PROJECT, INC.

1. Authorize Mayor to execute Certificate of Consistency

F. SCOPE OF PLANNING COMMITTEE JURISDICTION AS IT RELATES TO NON REDEVELOPMENT AREAS

1. For Discussion

G. EFFORTS TO PROMOTE JOB GROWTH AND CREATION OF JOBS OF THE 21ST CENTURY

1. For Discussion

III. OLD BUSINESS

IV. NEW BUSINESS

ADJOURNMENT

CITY OF NORWALK
PLANNING COMMITTEE
JANUARY 5, 2011

ATTENDANCE: Matthew Miklave, Chair; Michael Geake; Douglas Hempstead; Carvin Hilliard; David McCarthy; Warren Pena; Jerry Petrini

STAFF: Timothy Sheehan, Executive Director; Munro Johnson; MaryGrace Weber

OTHERS: Bruce Kimmel, Common Council

CALL TO ORDER

Mr. Miklave called the meeting to order at 7:31 p.m. and called the Roll.

PUBLIC PARTICIPATION

Mr. Bill Nightingale said that he has been following the Globe Theater for several years. He said that the current owners are desperate to be taken out by the City and are disingenuous. Mr. Nightingale said that he feels it is not appropriate for the City to spend money on these types of ventures. They are looking for a bail out. He said that the building is not worth $850,000 in its current state. What is being proposed is a wild business plan with no thoughts of how to generate revenue. He said that this is a terrible idea; they do not have parking and won't share in the robo park facility as the Globe owner was opposed to this.

Mr. Nightingale said that he likes the idea of re-doing Washington Village, but a big part of that is getting people off of government dependence. He said that people should be nurtured so that they are not dependent upon the government. He said that Washington Village should be improved to shrink the number of people dependent upon it.

Mr. Miklave said that as an item comes up for discussion, he will allow members of the public to make short commentary.

APPROVAL OF MINUTES – December 1, 2011- Regular Meeting

** **MR. HEMPSTEAD MOVED TO ACCEPT THE MINUTES WITH THE FOLLOWING CORRECTION**

Page 1 – should read – Mr. Miklave called the meeting to order at 7:30 p.m.

** **MOTION PASSED UNANIMOUSLY**

BUSINESS

WALL STREET REDEVELOPMENT PLAN

Globe Theater – Owner's Redevelopment Proposal

Mr. Frank Farricker, Project Director/Finance made a presentation for a different approach for the Globe Theater. He said that they came up with a new financial plan and an operating plan that will keep the facility moving and support itself.

Mr. Farricker reviewed the plan to turn it into a community based theater that will act as a draw to the Wall Street area. He said that the project has been reviewed by a number of architects. They intend to keep the historic structure of the building and not add any residential component.

Mr. Farricker reviewed the prospective uses and discussed funding sources. He presented the business structure and said that the building would be owned by a non-profit and governed by a board.

Mr. Miklave asked the Committee if they had any questions. Mr. Pena asked about the on-going liability. Mr. Farricker said that it was $2 million. Mr. Miklave asked about the appraisal of the theater. Mr. Sheehan said that it was under $1 million; he said that he believed it was in the high $800's. Mr. Hempstead concurred. Mr. Miklave asked about asbestos in the building. Mr. Farricker said that it does exist, but is not substantial. Mr. Miklave asked who holds the $850,000 first mortgage. Mr. Farricker said that the Bank of West Texas holds the first mortgage.

Mr. Miklave asked about the equity. Mr. Farricker said that the equity would go to the current owners of the project. The new owners have nothing invested. Mr. Farricker discussed funding and how state tax credits work. Mr. Miklave asked about the City's liability. Mr. Sheehan said that the City guarantees a fall-back on the Section 108 through its CDBG program.

Mr. Kimmel said that he thought the State film credit was going to end. Mr. Farricker said that it has been enhanced and once the credits are issued they would be fully valid.

Mr. McCarthy asked for details and if anyone has been identified who would be willing to pay up front. Mr. Farricker said that there is a large syndicate of tax credit

enterprises that work to be sure all steps are taken in compliance with the law. He said that the market is very robust, both in Connecticut and federally. Mr. Farricker said that the Reagan administration rolled out the first tax credits in 1987 and it is a very popular and wide spread program.

Mr. Miklave commented that if this is approved, the City is liable for $2 million and is obligated to maintain the theater in compliance with the plan. Mr. Sheehan said that the issue is that the City does not want to have a deficit. He suggested that the City mirror those obligations.

The Committee discussed financing. Mr. Miklave said that he is not comfortable with the amount of information presented concerning the liability of the City in the event of default. He stressed that he has real concerns and needs more information before he can send this item to the full Common Council. He said that he would like a formal recommendation from the staff. Mr. Geake added that he would like to see the legal opinion about the City's liability.

Mr. Hempstead said that early on, he supported the loan, but the dynamics of this deal are different. He said that he wants clarification about the financing and is far from comfortable right now.

** **MR. MIKLAVE MOVED TO TABLE THIS ITEM TO THE NEXT SCHEDULED REGULAR MEETING**
** **MOTION PASSED UNANIMOUSLY**

Mr. Sheehan asked the Committee members to send their questions to him and he will forward them to the developer.

13 AND 20 DAY STREET

Approval of Option Agreement Between the City of Norwalk and the Norwalk Housing Authority

** **MR. HILLIARD MOVED THE ITEM**

Mr. Miklave asked Mr. Sheehan if he had any idea what the properties are worth. Mr. Sheehan said that combined they are worth about $2 million. He said that the Planning Commission made two resolutions; one denying the request and the other approving it with conditions relative to parking. Mr. Hempstead said that there was concern about tying up an asset for a protracted period of time which could be sold. Mr. Sheehan said that a five year time frame can be incorporated into the agreement as it was already discussed and agreed to by Corporation Counsel.

Mr. Miklave noted that this is purely an advisory, non-binding vote. Mr. Sheehan said that they are being asked to provide the master developer with an indication of what the City would be willing to accept relative to the property. It is understood that this vote is not binding.

Mr. Sheehan said that the Committee will ultimately be presented the transformation plan for review and ultimately, if the Committee is supportive of both the plan and the option agreement, will advance it to the Common Council for final approval.

** **MR. HEMPSTEAD MOVED AN AMENDMENT THAT THERE WILL BE FIVE (5) YEAR EXPIRATION ON EXERCISING THE OPTION**
** **AMENDMENT PASSED UNANIMOUSLY**
** **MOTION AS AMENDED PASSED UNANIMOUSLY**

Ms. Diane Cece said that she had concerns that there is not an up to date document. Mr. Miklave explained that this Committee voted to approve the resolution as amended. The option is an agreement between the City and the Norwalk Housing Authority subject to a five year option. The Common Council will not be acting on this. This is an advisory vote.

Ms. Cece said that she believes there has been no public comment on this. She said that the Committee is agreeing to something they have not seen and the public has not seen. She said that the document she has looks like a purchasing agreement that could be moved to the Common Council. Mr. Miklave said that it will not be moved to the Common Council. Mr. Miklave told Ms. Cece that he understood her concerns.

Ms. Cece said that this is being done in absence of public comment. She said that she did not understand how this would be guarded against Common Council vote.

CONNECTIVITY

Information Session

Mr. Johnson gave a power point presentation showing the master plan for connecting downtown, between the two transportation hubs. He said that the presentation is also available on the project website. He said that the charge is to manage the connections between the separate and distinct project areas.

The strategy is to utilize the interproject proximities and existing transit assets to build a multimodal and intermodal corridor, linking different means of transportation.

Mr. Johnson reviewed the five point plan for connecting downtown Norwalk. He said that this is not an anti car but rather a "cars-plus" plan. He said that they are dealing with the reality on the ground now, but are planning for the new development in downtown Norwalk.

Mr. Miklave asked Mr. Johnson to provide a copy of the plan for the Committee members. He proposed holding a special meeting on January 30th to continue with the agenda and to complete this discussion.

CDBG

Schedule Public Hearing for PY38 and Review Annual Plan Process

** **MR. HEMPSTEAD MOVED TO SCHEDULE A PUBLIC HEARING FOR PY38 ON FEBRUARY 2, 2012 AT 7:30 P.M.**

** **MOTION PASSED UNANIMOUSLY**

** **MR. MCCARTHY MOVED TO TABLE THE FOLLOWING ITEMS TO JANUARY 30, 2012 SPECIAL MEETING:**

CDBG

CONNECTIVITY

WORKFORCE HOUSING REGULATION AND AFFORDABLE HOUSING INVENTORY

Update

TOD GRANT REQUESTS

Update

** **MOTION PASSED UNANIMOUSLY**

Mr. Mushak said that he loved the presentation and didn't understand why the Planning Commission was not in favor of the bike lane. He said that every day he reads that new apartments are being built in Stamford and people are looking for bike lanes. He said that the City needs to think about the marketability of Norwalk. Mr. Mushak said that it is extremely important to create bike lanes; this is a huge plan in other cities. Mr. Miklave said that he stopped riding his bike when he was hit by a car on East Avenue. He said that if the City makes it accessible, people will use it.

Ms. Diane Lauricella said that she agreed with Mr. Mushak and referred to the master plan of parks. She said that there was a cycling club in Norwalk that raced to the reservoir in Weston. She said that it was found that most people have bikes, but this is not a bike friendly community.

Mr. Marcus said that as a member of the 25 – 34 year old demographic, he is looking for a place to walk and bike. He said that he feels it is important to the economic development of Norwalk.

Mr. Hempstead asked for density issues that make connectivity work. He also asked for information about a maintenance plan for the greenery in the center lanes and brick sidewalks.

Mr. Miklave said that he would like to hear a deeper discussion about circulator buses.

OLD BUSINESS

There was no old business discussed this evening.

NEW BUSINESS

There was no new business discussed this evening.

ADJOURNMENT

** **MR. HEMPSTEAD MOVED TO ADJOURN**
** **MOTION PASSED UNANIMOUSLY**

There was no further business and the meeting was unanimously adjourned at 10:08 p.m.

Respectfully submitted,

Rosemarie Lombardi
Telesco Secretarial Services

CITY OF NORWALK
PLANNING COMMITTEE
REGULAR MEETING
OCTOBER 17, 2011

ATTENDANCE: Douglas Hempstead, Kelly Straniti, John Tobin, Andy Conroy, Carvin Hilliard, Clyde Mount (7:20 p.m.)

STAFF: Tim Sheehan, Redevelopment Director; Susan Sweitzer, Redevelopment Agency

CALL TO ORDER

Mr. Hempstead called the meeting to order 7:15 p.m.

ROLL CALL

Mr. Hempstead called the roll. A quorum was present.

PUBLIC PARTICIPATION

Approval of Minutes - August 30, 2011 Special Meeting

**** MS. STRANITI MOVED THE MINUTES OF THE AUGUST 30, 2011 MEETING.**

Mr. Mount joined the meeting at 7:20 p.m.

The following correction was noted:

Page 5, paragraph 3, line 1: please change "issues such as pruning trees." To "issues such as pruning trees and creating a budget associated with maintaining them."

A question arose about the numerous questions that were asked during the Globe Theater presentation. Mr. Sheehan said that he had sent out an email with a list of the requests for information to the Committee members. Following a discussion about this, it was determined that the Committee members had not received that document.

Mr. Hempstead said that he had some concerns about the missing bricks in the various crosswalks on Washington Street. A brief discussion about this followed.

**** MR. CONROY MOVED TO TABLE THE MINUTES OF AUGUST 30, 2011.**

** THE MOTION PASSED UNANIMOUSLY.

BUSINESS

TRANSIT ORIENTATED DEVELOPMENT MASTER PLAN FOR THE SOUTH NORWALK RAILROAD STATION NEIGHBORHOOD.

Review Investment & Fiscal Impact Analysis of the Proposed TOD Development Scenarios.

Approve the Transit Oriented Development Master Plan for the South Norwalk Railroad Station Neighborhood to be advanced to the Common Council for final approval.

Ms. Sweitzer then reviewed the various fiscal analysis charts in the South Norwalk Railroad Neighborhood Planning project. She indicated that pg. 4 in the Fiscal Impact report has the chart with the fiscal impact and page 6 is where the charts with the municipal revenue by project begins.

Mr. Hempstead said that he had some concerns about the marinas and cited the problems in Stamford where marinas were pushed out by housing. Discussion followed about the exactly location of the marinas on the maps in the report.

Mr. Sheehan then directed everyone's attention to the waterfront component of Transit Oriented Development Master Plan. He explained that Water Street really has no street frontage right now. Mr. Mount commented that the area was all in a flood plain.

Mr. Hempstead asked about the public hearings on this. Ms. Sweitzer reviewed the timeline of when the public meetings had been held. Mr. Sheehan said that the build out period on some of the project pieces was 30 years and said that the Redevelopment Agency has been looking at the Webster Street development for 25 years.

Mr. Conroy asked what piece would be the last piece developed. Mr. Sheehan said that he believed that the waterfront pieces would be the last ones developed. Mr. Hempstead asked about Webster Street. Mr. Sheehan said that the Webster Street lot was a complicated property. Mr. Sheehan then stated that he would like the record reflects that the Redevelopment Agency had been opposed to the City's approval to construct 50 Washington Street.

Mr. Hempstead asked how this project would be presented to the Council. Mr. Hempstead said that it would be important to present this to the Council as a Plan and that he would like to see a cover letter stressing that this plan is an advisory document.

He added that this would be presented at the last meeting of the current Council.

Mr. Hilliard said that there was a large amount of material to absorb in the reports and that there were people who would take anything the Council voted on as a final decision. Mr. Sheehan then reminded everyone that the Committee has seen the Plan numerous times, but the one outstanding piece that was not there was the fiscal impact, which has now been presented.

Mr. Hempstead said that he would like to see this plan moved to the Council. Mr. Sheehan said that he would make sure that the Council Members would be sent the plan tomorrow.

Mr. Hilliard said that as a representative of South Norwalk, he was not comfortable voting on this right now. Mr. Mount said that he had concerns about the fact that there would need to be some consideration about winter storage for boats along the waterfront.

**** MR. HEMPSTEAD MOVED TO APPROVE TO ADVANCE THE TRANSIT-ORIENTED MASTER PLAN FOR THE SOUTH NORWALK RAILROAD STATION NEIGHBORHOOD AS OUTLINED IN THE BRIEFING SUMMARY OF MAY 5, 2011 FOR ADOPTION BY THE NORWALK COMMON COUNCIL.**

**** THE MOTION PASSED WITH FIVE IN FAVOR (HEMPSTEAD, STRANITI, TOBIN, MOUNT AND CONROY AND ONE OPPOSED (HILLIARD).**

CHOICE NEIGHBORHOODS.

Approve the proposed option agreement on the Day Street properties as developed by Corporation Counsel and advance to Common Council for final approval.

Mr. Sheehan said that a $250,000 grant had been awarded to NHA for planning. He then reviewed the details of the requirements that include site control. A draft was presented to the Committee in April and there was a request to have Corporation Counsel review the document. The purchase price in Item 7 has not yet been determined yet. This must be done by the Council.

Mr. Hempstead asked if the parcels were being utilized. Mr. Sheehan said that one of them was being used for parking. Mr. Hempstead said that he would like to have the fair market values entered into the document. The City would be turning over an asset and having the value assigned would be helpful. Mr. Sheehan said that this was basic leveraging for the Federal funding. Mr. Hempstead said that there had been a discussion about the parcels sitting fallow for a long period of time. Mr. Sheehan said that there had been a discussion with NHA about the timeframe and that two years seemed to be an

acceptable time frame.

Mr. Hilliard asked if there was a deadline on Choice Neighborhoods. Mr. Sheehan said that NHA had been awarded the funding in the spring. NHA is working on a developer RFQ. In order to apply for an Implementation Grant, NHA must have site control of the parcels. The discussion then moved back to the time line and the determination of when the options would be exercised. Mr. Sheehan said that he did not see any references to the maintenance of the property.

Mr. Sheehan said that he understood that a two year time frame should be included in the agreement along with a firm start date for the option. The maintenance issue should also be included along with the fair market value in the document. It was decided that a five year timeline would be appropriate because this project involves the Federal Government.

Mr. Sheehan said that the implementation grant is highly competitive. Norwalk did well with the Planning grant. Mr. Hempstead asked what would happen if the implementation funding was not awarded. Mr. Sheehan said that he believed that the next call for the Federal applications would be in the spring.

Mr. Sheehan said that there had been a concern raised in a separate meeting about the Webster Street area being included in the Choice Neighborhood project previously. He said that the Webster Street area was not included in this agreement but that the Mayor had indicated that its inclusion could be explored. The document will be amended as requested and presented to the Council.

Mr. Sheehan thanked the Council Members who would not be returning.

ADJOURNMENT

**** MR. MOUNT MOVED TO ADJOURN.**
**** THE MOTION PASSED UNANIMOUSLY.**

The meeting adjourned at 8:30 p.m.

Respectfully submitted,

Sharon L. Soltes
Telesco Secretarial Services

NORWALK re: DEVELOPMENT AGENCY
norwalkredevelopmentagency.com

CHAIRMAN
Emil Albanese

COMMISSIONERS
Felix R. Serrano
Lisa M. Cooper
Randy Napoletano
Lori Torrano

EXECUTIVE DIRECTOR
Timothy T. Sheehan

TO: MEMBERS OF THE PLANNING COMMITTEE OF THE NORWALK COMMON COUNCIL

FROM: MUNRO W. JOHNSON, AICP
SENIOR DEVELOPMENT PROJECT MANAGER

DATE: JANUARY 17, 2012

RE: ANSWERS TO QUESTIONS ON 'CONNECTIVITY' FROM YOUR JANUARY 5TH MEETING

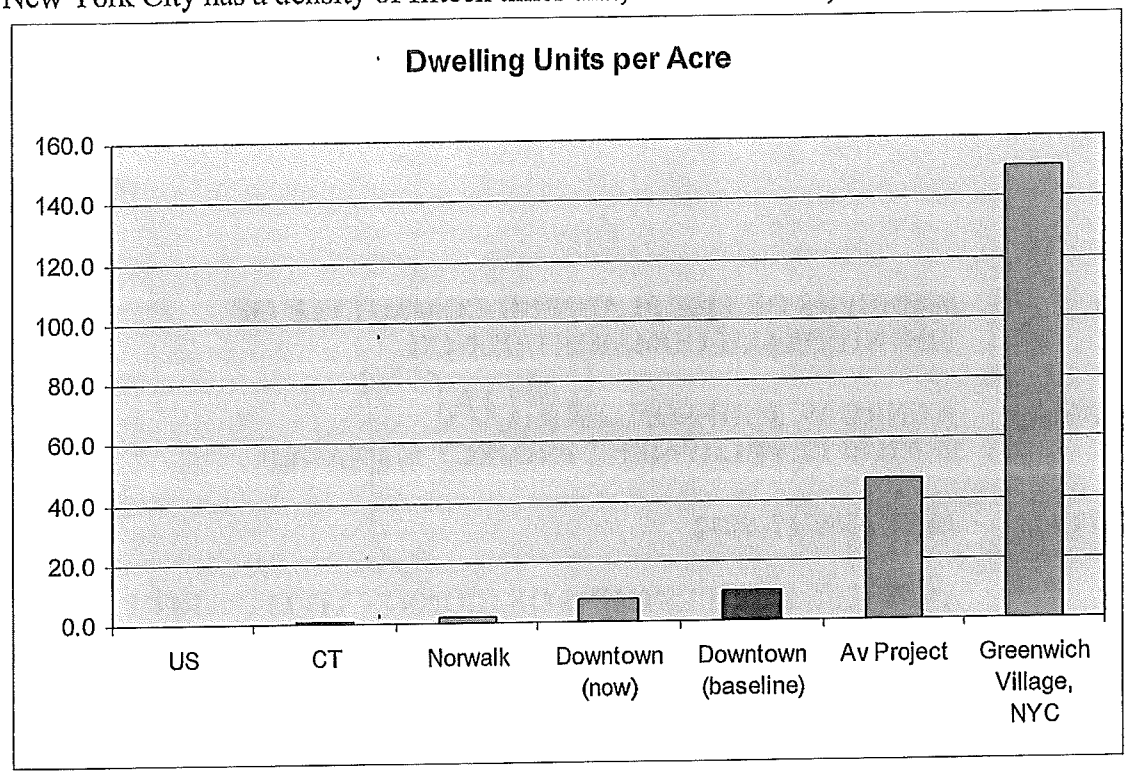
After the presentation on Connectivity at your last meeting, members of the committee responded with a number of comments and questions. Staff has put together a series of answers to the latter, and is sending them here for your consideration in advance of your upcoming meeting.

Question: What are the densities necessary to make different travel modes (proposed under the Connectivity Plan) work?

Answer: Urban, multi-modal environments usually come with density. Specifically what *level* of density is a question for which there is no clear answer.

In the interests of exploring the question further, however, it may be useful to identify current and prospective densities in the target area. Urban density is measured in "dwelling units per acre" (du/acre). Norwalk's average density, based on the *Plan of Conservation of Development* and the U.S. Census, is 2.1 du/acre. The Connectivity study area's average density is roughly 4 times that number today, or 7.6 du/acre. The average density of the proposed development projects is 46.7 du/acre, which, upon being averaged into the rest of the corridor, would raise the 7.6 number to 10.1 du/acre, or what

the graph below refers to as "baseline." (As a point of comparison, Greenwich Village in New York City has a density of fifteen times that, or 150 du/acre.)



There is no research that staff is aware of that suggests particular density thresholds for successful implementation of enhanced crosswalks, bike lanes, or wayfinding. Further, there *are* examples of smaller, less-dense communities than Norwalk implementing one or more of the five strategies comprising Norwalk's Connectivity Plan. Mystic, Connecticut, a tourism district largely within the town of Groton (pop. 40 thousand) has recently implemented certain wayfinding, bicycle, and pedestrian improvements. Simsbury, Connecticut (pop. 25 thousand) has bicycle sharrows. Chattanooga, TN (pop. 155 thousand) enjoys a relatively higher profile for its region than Norwalk and has more office space, but is technically much less dense (1.1 du/acre) and has a very successful circulator, as does Kenosha, WI (pop. 90 thousand, and 5.2 du/acre in the neighborhood surrounding the circulator).

If the question originates in a concern that perhaps Norwalk is not sufficiently dense to justify the infrastructure improvements proposed in the Connectivity Plan, staff would reiterate that the standard experience of successfully-planned towns, cities, states, and regions over time is that of development occurring in response to infrastructure, not the other way around. Building infrastructure *reactively* to development is the opposite of planning and misses the opportunity to tap development potential that might otherwise remain latent. The private sector response to the Portland and Kenosha Streetcars, the Metro Line in Arlington, VA, or the Health Line in Cleveland, OH are all stark examples of strategic public infrastructure investments that seemed ambitious at the time, but yielded significant – while not atypical – private sector responses.

Question: What are the different ways in which circulators are financially operated?

Answer: This very question was investigated as part of the Connectivity consultant's Task A report, online at http://www.connectnorwalk.com/connectivitys-three-reports/ (see page 64). A chart from that report is included below.

	Funding Mechanism											
	Agency Funds		Federal Funds		State Funds	Local Funds					Private Funds	
	Farebox Revenue	Agency Operating Funds	CMAQ	Other Federal Funds	State DOT	Sales Tax	Parking Revenue	Downtown Property Tax	Impact Fees on Developers	Local Funds	Private Sponsorships	Downtown BID
Austin	-	100%[6]	-	-	-	-	-	-	-	-	-	-
Chattanooga	-	-	-	-	-	-	58%	-	-	42%	-	-
DART	10%	50%[5]	-	-	-	-	-	-	-	-	-	40%[7]
Denver	-	100%[5]	-	-	-	-	-	-	-	-	-	-
Los Angeles (A, B, and E)[8]	12%	✓	-	-	-	✓	-	-	-	-	-	-
Los Angeles (remaining)	12%	-	-	-	-	78%	-	-	-	-	-	-
Miami	5%[1]	-	-	-	20%	-	60%	-	15%	-	-	-
Milwaukee	15%	1%	80%			-	-	-	-	-	2%[2]	2%
Oklahoma City (Green)	24%	29%[3]	-	21%	-	-	-	-	-	-	26%[4]	-
Oklahoma City (Other)	4%	78%[3]	-	18%	-	-	-	-	-	-	-	-
Orlando (LYNX)	-	-	-	-	-	-	✓	✓	-	-	-	-

[1]Includes advertising revenues and grants

[2]Private sponsorship is from a local casino

[3]Originally, local share of operating cost was covered by the MAPS project

[4]Private sponsorship includes local museums and the Convention & Visitors Bureau

[5]Primarily sales tax revenue

[6]Sales tax, investment income, other revenue sources - exact breakdown unknown

[7]McKinney Ave. Transit Authority, which is partially funded by BID

[8]These routes receive regional transit funding because they are the result of the LADOT taking over the Southern California Rapid Transit District's Minibus route

✓ Exact breakdown not specified by agency

Source: Multisystems, Inc.: District of Columbia Downtown Circulator Implementation Plan, 2003

As shown, with two exceptions, the funding typically flows in from a mix of sources. In addition to funds from the operating entity itself (presumably part of their annual operating budget) and farebox (a small percentage), it would appear that parking revenues, special services districts, and sales taxes are the most often and significant sources.

	Start of Service	Initial Track Miles	Initial System Cost Per Track Mile	Initial System Cost	Development Investment	Return on Investment
Kenosha	2000	2.0	3.10	6.20	150	2319.35%
Little Rock	2004	2.5	7.84	19.60	200	920.41%
Tampa	2003	2.4	20.13	48.30	1000	1970.39%
Portland (1)	2001	4.8	11.50	55.20	1046	1794.93%

Source: Reconnecting America, TOD101 (Dollar figures are millions.)

As for capital funding, many systems are funded at the federal level for a majority portion of the cost, with local, state, and other public funds making up the minority share. There are also examples of circulators being funded through Tax Increment Financing (TIF), a logical approach when considering the tendency for transit investments to generate significant tax revenues inducing adjoining real estate development.

Question: What are some comparable communities that have done this type of thing before?

Answer: First, a word of caution/disclaimer: the "comparable community" analysis can sometimes be less than productive given that 1) it is extremely difficult to find whole communities who are enough alike to be instructive when accounting for a) population & demographics, b) geography and climate, c) politics and economics, d) regulatory framework, and e) history and culture, and, 2) the premise – i.e., that the existence or absence of a comparable community that has undertaken the initiative in question is indicative of its viability precludes the possibility of Norwalk achieving something new and innovative. That being said, questions of this sort are a constant, and staff is always on the lookout for a community that Norwalk might look to as possessing similar qualities. Hoboken, New Jersey is the latest community I would venture to offer as a "comparable." It and Norwalk both fall into the category of "small cities" in the northeast, located in the middle-rings of a large and wealthy metropolitan region. Hoboken is not a large city, like New York (or even Portland, Oregon a model often cited in urban development contexts), nor is it of a different climate (pedestrian-focused planning initiatives are often met with skepticism in northern climes where people are thought to shun elective walking outdoors), nor is it in a significantly different region from a transportation and regional economics standpoint, being within the same sphere of New York's economic influence as Fairfield County, and connected via similar transportation infrastructure. At roughly 50,000 people, Hoboken is actually smaller than Norwalk. They are, however, more dense. Norwalk's 80,000 person population is spread across twenty-three square miles, while Hoboken's 50,000 is squeezed into just over one.

Hoboken's density, at 24 d.u./acre, is midway between the anticipated corridor-wide density in Norwalk once the projects are built (10 d.u./acre), and the average expected density of the projects themselves (46 d.u./acre). In other words, while the city overall is much denser than Norwalk, when taken in the geographic context of the Connectivity plan area and its projected growth, the comparable remains sound.

Hoboken has a circulator that raised the value of surrounding properties and stimulated investment; it incorporated bike lanes and sharrows through 80% of their street network (read about it on their city's website: http://www.hobokennj.org/departments/transportation-parking/bicycling/); and it implemented a city-wide car-sharing system (often said to be infeasible outside of large cities).

Question: What would be the capital cost of funding the Connectivity Plan?

Answer: The total cost of all the Connectivity improvements is estimated at an order of magnitude approximating $20 million (see pages 37-38 of the draft master plan). Much – though not all – of that funding would be sought from sources outside of the Capital Budget (refer, for example, to the Circulator funding question, above).

Question: What is the marginal extra cost of maintaining the types of enhancements referred to in this plan which go beyond DPW's standard maintenance costs?

Answer: Unfortunately, there is no efficient way to answer that question with any precision. However, in general, you can estimate annual maintenance costs at roughly 10-15% of capital cost.

As a general matter, the experience of thousands of communities across the US for over fifty years has shown that the maintenance of downtown infrastructure improvements in redevelopment districts can be efficiently financed through Tax Increment Financing, a tool which Norwalk has been slow to deploy. Tax Increment Financing (TIF) is public investment in a specific district, the return on which is the resulting incremental growth in tax revenue. A portion of the increment not being used to pay off the original

investment is sometimes earmarked for ongoing operations, maintenance, and improvements. Norwalk has been willing in the past to recognize the idea behind TIFs, bonding for project-specific public infrastructure in the knowledge that new ratables would recover the investment, but without adopting the specific financial structure of TIFs, and without dedicating any portion of the increment to ongoing work in the district.

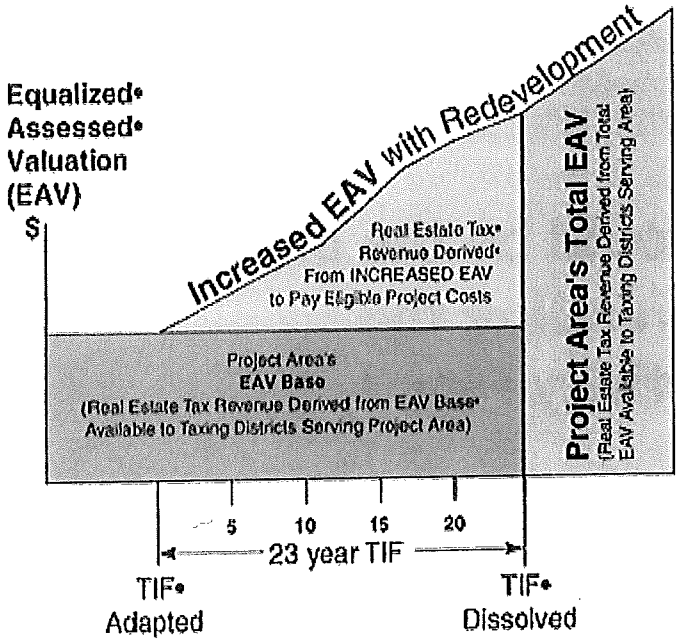


Diagram of a TIF from Chicago.

But whether through TIFs or through informal, de facto TIFs, the underlying point to recognize is that the improvements as well as their maintenance are 'investments' for which the city can reasonably expect to be paid back and enjoy a reasonable return.

Finally, as it considers the 'expense' of improving its own public infrastructure, another factor or perspective the city may want to consider is the liability risk inherent in *not* constructing improvements which have the obvious potential to mitigate safety concerns. As the body of research showing the safety benefits of certain infrastructure improvements grows, so too does the potential for claims of negligence for *not* implementing such improvements when it's possible to do so.

Question: What are the plan's priorities?

Answer: The plan takes a multi-pronged approach to the challenges presented in the corridor today offering up five basic strategies: 1) Complete Streets, 2) Pedestrian Improvements, 3) Wayfinding and Heritage Tourism, 4) Bicycle Inclusion, and 5) Transit Enhancements. With a concern for what may be a limited opportunity to implement the plan, members of the Connectivity initiative held a meeting last spring for the specific purpose of prioritizing various initiatives within the plan, organizing them into short-term and long-term initiatives. The chart on page 36 of the master plan reflects the outcome of that exercise, with the wayfinding and pedestrian strategies emerging as the top priorities, and consequently having the most initiatives concentrated in the "short-term" bracket of the chart.

Question: If Norwalk were to implement a circulator, could the service incorporate a hospitality / tourism function to actively promote downtown attractions?

Answer: This suggestion was also put forward during the Connectivity design workshop, and was made a part of the record in the Task B report, on page 41. (Download at: http://www.connectnorwalk.com/connectivitys-three-reports/ .) It is apparently also the practice on the trolleys in Tampa (see photo at right). The idea seems to have resonance in the community, and should be pursued when the circulator gets implemented in Norwalk. The main technical concern relates to the delays it could cause (or safety considerations) if the driver is unable to focus exclusively on driving his/her route. The establishment of operating guidelines that addresses how to safely and efficiently incorporate the added function would be one way to approach this issue. Additionally, the ambassadorial function might be assumed by regular riders, or volunteers stationed at the stops (rather than on the vehicles).

Photo of a driver/hospitality ambassador on one of Tampa's TECO circulators.

THE PLANNING COMMITTEE
OF THE COMMON COUNCIL

125 East Avenue
P.O. Box 5125
Norwalk, CT 06856

TO: MEMBERS, PLANNING COMMITTEE OF THE NORWALK COMMON COUNCIL

FROM: MARYGRACE WEBER, SPECIAL PROJECTS MANAGER
TIM CARNEY, HOUSING DEVELOPMENT PROJECT MANAGER

DATE: JANUARY 18, 2012

RE: REVIEW OF ALLOCATION PROCESS FOR PY38 CDBG FUNDING

SUMMARY

The Norwalk Redevelopment Agency (Agency), as the administrator of the City of Norwalk's Community Development Block Grant Program (CDBG), has initiated the public process associated with disseminating the City's CDBG resources for Program Year 38 (July 1, 2012 – June 30, 2013). The purpose of this memorandum is to apprise the Planning Committee members of the steps associated with this process.

PY38 SUB-AWARD APPLICATION AND ALLOCATION PROCESS

In accordance with the City of Norwalk's Citizen Participation Plan, a Notice of Funding Availability (NOFA) was released on December 27th, 2011. This NOFA announced that a total of $938,594.21 in CDBG funding is anticipated to be available for PY38 activities. It is important to note that this number is based on HUD's estimate of PY38 CDBG Entitlement grant funding, as well as estimates of non-revolving program income and reprogrammed funds from previous program years and is subject to change.

PY38 applications are being submitted in two phases. The Phase I application was due on January 13th, 2012. Agency staff has reviewed and scored the applications according to the criteria set forth in the NOFA. It will submit all applications meeting basic program requirements, along with the results of Agency staff's initial scoring, to the Planning Committee ahead of the public hearing scheduled during the Planning Committee meeting on February 2nd, 2012. The Planning Committee will decide which applicants will advance to Phase II of the application process, which is more thorough than the Phase I application and is mostly technical in nature. Following the submission of Phase II of the application, the Planning Committee will be asked to make a final decision regarding PY38 funding allocations in the form of review and a vote to approve a draft Annual Action Plan. The Planning Committee's decision regarding PY38 funding allocations will be subject to approval by the full Common Council.

PUBLIC HEARING

As is stated in the City of Norwalk's Citizen Participation Plan, a public hearing is a required component of the CDBG funding allocation process. This hearing has been scheduled for 7:30pm on February 2nd, 2012. CDBG funding applicants are encouraged to use this hearing as an opportunity to present their proposed projects to the Planning Committee. Each organization will be given 2 ½ minutes to present their proposal. Members of the public are also invited to provide their input regarding the allocation of available funds. Following this hearing, the Planning Committee will be asked to make a decision regarding which applications to advance to Phase II of the application process.

ANNUAL ACTION PLAN

The Annual Action Plan is a binding document outlining the Common Council-approved allocations of CDBG funding to sub-grantees for the upcoming program year. Following the submission of Phase II applications, the Agency will develop a draft Annual Action Plan based on the Planning Committee's decision regarding Phase I applications and the outcomes of the Agency's review of Phase II applications. The Planning Committee will be asked to review the draft AAP and to provide its input. If the Planning Committee is satisfied with the draft AAP, it will be asked to approve the draft and to motion advancing it to the Common Council following the close of a required 30-day public comment period. At the end of this 30-day period, the draft AAP would be submitted, along with any public comments received, to the Common Council for its review and approval. Once passed by the Common Council, the approved Annual Action Plan will be submitted to HUD and all PY38 funding allocations will be made in accordance with the Plan.

NO ACTION IS REQUESTED AT THIS TIME

NORWALK DEVELOPMENT AGENCY
norwalkredevelopmentagency.com

TO: MEMBERS OF THE PLANNING COMMITTEE OF THE NORWALK COMMON COUNCIL

FROM: MUNRO W. JOHNSON, AICP
SENIOR DEVELOPMENT PROJECT MANAGER

DATE: JANUARY 23, 2012

RE: WALL STREET REDEVELOPMENT / THE GLOBE THEATER

Subsequent to the committee's last meeting at which it heard a presentation on redeveloping the Globe Theater (71 Wall Street) from Frank Farricker, Agency staff met with Mr. Farricker to discuss next steps. Mr. Farricker indicated that he was willing and able to provide the information sought in the Planning Committee's September 15th, 2011 letter, as well as responses to questions raised by the committee at its January 5, 2012 meeting.

In the attached letter, Mr. Farricker seems to reiterate that willingness, although the substance of the items requested has not yet been produced. We have advised the proponent that we are forwarding his letter to the committee and will await the completion of the tasks he has agreed to before conducting our staff review and rendering a recommendation.

ACTION: No action requested at this time.

FAX COVER SHEET

TO	Munro Johnson
COMPANY	Norwalk Redevelopment
FAX NUMBER	12038547734
FROM	Frank Farricker
DATE	2012-01-20 17:11:17 GMT
RE	Globe Theater

COVER MESSAGE

Answers to questions posed in 9/15 and 1/12 letters

FF

Mr. Timothy Sheehan
Norwalk Redevelopment Agency
125 East Avenue
Norwalk, CT 06856

Mr. Sheehan;

I am pleased to offer the following responses to the questions posed by members of the Planning Committee regarding the HUD 108 application for the Globe Theater.

To the questions posed in the 9/15/11 letter to Andrew Kydes;

1) Under separate cover
2) There a number of benefits for an accurate appraisal at the beginning of the process. A reputable appraisal helps to set valuations for certain parts of a tax credit basis, for example. This office supports the commissioning of a legitimate, arms-length appraisal conducted by an appraiser or firm mutually agreed to by the Planning Committee, staff and the Globe team. We will contribute 50% of the cost of such an appraisal.
3) The business model has changed somewhat since the previous submission. In that time, the Globe has removed any proposed affordable housing due to a change in qualification for State Historic tax credits, eliminated direct storefront external uses (stores) and streamlined both the proposed build and the proposed operations to specifically theater and theater-support related issues. Therefore, we believe that the business model has actually come closer to a more traditional theater-related use, less dependent upon ancillary revenues to meet its P&L objectives. We are happy to provide a narrative of the proposed theater operations, as well as a preliminary proforma to demonstrate the ongoing financial viability of the Globe as a not-for-profit business entity.
4) We have been working closely with consultants from the Enterprise Community Investment, with whom we have created a structure which most adequately meets the funding objectives of the project. We believe the path of equity financing set forth is a common one, and we will be happy sharing our third-party analysis with the City. However, we believe that the expense of this is unnecessary.
5) The constraints of the Globe and its application for Historic Tax Credits (both State and Federal) will have a rather significant impact on the proposed designs for the Globe. For example, the historic marquee may require restoration and replacement under the NPS guidelines. Most of the significant architectural impacts will be on ensuring compliance with historic requirements, and therefore it is difficult to present *accurate* renderings at this time. In the approximately 10 months between the issuance of the HUD 108 loan and the tax credits, we anticipate a significant amount of time will be taken with changes in the architectural layouts. As regards to the interior, we anticipate the stage and seating arrangements will remain largely the same. However, we do expect that our theater associates may wish to install significant streaming capacity for international broadcast – which would require a slightly elongated stage and additional soundproofing. We would consent to a monthly review of all architectural work going forward.

In regards to the January 12, 2012 letter.....

1) The City's risk in the 108 transaction is directly related to timing. Upon execution of the agreement, the Globe intends to reach an agreement with the Bank of West Texas to purchase the debt on the property, an amount (including all costs and expenses) of $925,000. If the project were to fail at that moment, the City would recoup the unspent funds, and own an asset worth approximately $925,000 – depending of course upon appraisal.

   We intend upon utilizing the funds for both the securing of the tax credits, as well as the operational costs of the Globe, utilities, repairs, etc. We anticipate that we will spend approximately $580,000 in this period, which includes consultants, architectural work, repair of obvious structural defects, legal fees, applications fees, and any other cost necessary to comply with State and Federal guidelines regarding tax credits. Only in the event of 100% rejection of all forms of financing would the City's exposure expand to $1,505,000. In the event of partial acceptance of sources of tax credit equity, the City would be permitted the opportunity to assess risk before exploring alternate forms of financing with us, specifically State grants through DECD or private financial investment.

   Should the tax credits be accepted, and the equity financing is extended, each credit has a "recapture" period which presents some quite distant risk. For the historic credits, for example, the recapture period is 5 years placed in service. Film Infrastructure Tax Credits, however, have no recapture period. During any recapture period, the limited partner investors have the right to intervene and correct any threat to their tax credit investment. Due to the full financial cost, it is possible, but highly unlikely, that the investors would risk a loss that carries backward.

   Nonetheless, this risk falls on Norwalk only in the event that the tax credit investors *accept* this full loss and walk away from the project (and $7 million). In that event, the Globe would be a fully renovated building having $5 million in hard assets invested in its rehabilitation. Norwalk's exposure would be the delta between the amortized HUD 108 and the appraised value.

   The specific funding sources are:

   Federal Historic Credits (Rehabilitation Tax Credit) : 20% of Qualified Rehabilitation Expenditures
   State Historic Credits: 25% of Qualified Rehabilitation Expenditures
   Infrastructure Media Credits: 20% of all eligible expenses. 'Infrastructure project' means a capital project to provide basic buildings, facilities, or installations needed for the functioning of the digital media and motion picture industry in this state. Should note that HB6801 was signed by Gov. Malloy in October 2011 to extend the program
   Green Building Credit - Construction cost offset for buildings whose rehabilitation results in a building consuming less than 80% of the State Building Code estimates.
   New Markets Tax Credits – 39% credit over a 7 year schedule. Qualifies through census tract designation, other qualification hurdles based on final project structure
   HUD 108

   All allocations are discretionary, and all but New Markets can be allocated upon completion and approval of specific applications. We anticipate approximately 12 months from completion of the HUD 108 process and allocation to complete the balance of the funding.

Thank you for this opportunity to help renovate this historic theater, and I look forward to future, positive discussions.

Regards,

Frank Farricker
Globe Theater Project
EBT Realty Inc.
177 Sound Beach Avenue
Old Greenwich CT 06870
(203) 554-6140

Cc: Stephen Soler
Munro Johnson, Redevelopment Agency

THE PLANNING COMMITTEE
OF THE COMMON COUNCIL

125 East Avenue
P.O. Box 5125
Norwalk, CT 06856

TO: MEMBERS, PLANNING COMMITTEE OF THE NORWALK COMMON COUNCIL

FROM: MARYGRACE WEBER, SPECIAL PROJECTS MANAGER

DATE: JANUARY 23, 2012

RE: REQUEST FOR APPROVAL OF MAYORAL SIGNATURE ON CONSOLIDATED PLAN CERTIFICATE OF CONSISTENCY FOR THE MID FAIRFIELD AIDS PROJECT

BACKGROUND

The Mid-Fairfield AIDS Project (MFAP) is submitting an application for Housing Opportunities for Persons with AIDS (HOPWA) funding for the upcoming Program Year (PY38). The HOPWA grant is a Department of Housing and Urban Development (HUD) funded program designed to provide States and localities with resources and incentives to devise long-term comprehensive strategies for housing assistance and services for low-income persons living with HIV/AIDS and their families. MFAP is requesting funding for its Independent Living Program, which subsidizes the cost of rent for 12 apartments for persons living with HIV/AIDS and their families. Further, the Independent Living Program provides these households with the support services needed to keep them in permanent safe and affordable housing.

CONSISTENCY WITH CONSOLIDATED PLAN

The Norwalk Redevelopment Agency deems MFAP's HOPWA proposal for continued funding of MFAP's Independent Living Program to be consistent with the City of Norwalk's Consolidated Plan for Housing and Community Development (ConPlan). Specifically, the Independent Living Program responds to *Goal One*, or the *Housing Pathway* found on page 18 of the ConPlan, which identifies the need to improve access to affordable housing opportunities. The rental subsidy provided by the Independent Living Program is a form of Tenant-based Rental Assistance, which is identified as a medium priority to achieve the ConPlan's stated goal of supporting efforts to stabilize or reduce housing costs.

ACTION REQUESTED

The Agency, operating as the City's CDBG Administrator, deems the Mid-Fairfield AIDS Project's HOPWA application for Program Year 38 to be consistent with the City's current Consolidated Plan and seeks Planning Committee Approval to advance the Agency's request for Common Council approval for the Mayor to execute the required Certificate of Consistency that must accompany the PHA Plan when submitted to the U.S. Department of Housing and Urban Development.

GEORGETOWN UNIVERSITY
Center
on Education
and the Workforce

EXECUTIVE SUMMARY

STEM

SCIENCE
TECHNOLOGY
ENGINEERING
MATHEMATICS

ANTHONY P. CARNEVALE
NICOLE SMITH
MICHELLE MELTON

The views expressed in this publication are those of the authors and do not necessarily represent those of Lumina Foundation or the Bill and Melinda Gates Foundation, their officers, or employees.

STEM
Executive Summary

2

Executive Summary

Science, Technology, Engineering, and Mathematics (STEM) occupations are critical to our continued economic competitiveness because of their direct ties to innovation, economic growth, and productivity, even though they will only be 5 percent of all jobs in the U.S. economy by 2018.[1] The disproportionate influence of STEM raises a persistent concern that we are not producing enough STEM workers to compete successfully in the global economy. We find that this concern is warranted—but not for the reasons traditionally claimed.

High and rising wage premiums are being paid to STEM workers in spite of the increasing global supply. This suggests that the demand for these workers is not being met.[2] Indeed, with the exception of some PhD-level researchers in academia, the demand for workers in STEM occupations is increasing at every education level. The STEM supply problem goes beyond the need for more professional scientists, engineers, and mathematicians. We also need more qualified technicians and skilled STEM workers in Advanced Manufacturing, Utilities and Transportation, Mining, and other technology-driven industries.

Innovation and technology change have led to demand for STEM competencies beyond traditional STEM occupations.[3] Previously, STEM work had been concentrated among an elite few workers. Today, competencies necessary for innovation are scattered across a wider swath of the economy. STEM competencies are needed in a broader reach of occupations, and their use is growing outside of STEM. What's more, people within these occupations that use STEM competencies most intensely are earning significantly more than those who are not.

The concern for STEM shortages tends to focus on the possibility of an insufficient supply of STEM workers, but the deeper problem is a broader scarcity of workers with basic STEM competencies across the entire economy. Demand for the core competencies is far greater than the 5 percent traditional STEM employment share suggests, and stretches across the entire U.S. job market, touching virtually every industry. Since 1980, the number of workers with high levels of core STEM competencies has increased by almost 60 percent. Further, in all but two occupational clusters, the rate of growth in demand for these core STEM competencies has increased at far greater rates than the growth in employment.[4]

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[1] STEM includes Computer occupations (computer technicians, computer programmers, and computer scientists), Mathematical Science occupations, Engineers and Engineering Technicians, Life and Physical Science occupations, and Architects, Surveyors, and Technicians. We do not include social scientists and we do include sub-baccalaureate technical workers as STEM workers.

[2] When discussing supply and demand for STEM workers, we use "supply" and "demand" as shorthand for relative supply and relative demand.

[3] We define STEM competencies as the set of cognitive knowledge, skills, and abilities that are associated with STEM occupations. We also include and analyze noncognitive work interests and work values associated with motivation and high performance in STEM occupations.

[4] Sales and Office Support and Community and Arts are the exceptions. The U.S. labor force grew by 44 percent, while high-level core STEM employment in Managerial and Professional, STEM, and Healthcare Professionals increased by 73 percent, 175 percent, and 79 percent respectively between 1980 and 2008.

Growth of demand for STEM competencies is especially strong in occupations in fast-growing industries like Professional and Business Services and Healthcare Services. At the same time, technology change in industries like Manufacturing, Mining, and Utilities and Transportation is reducing overall employment but increasing demand for STEM competencies among the more highly skilled workers who remain.

As a result, we find that the demand for traditional STEM workers will only grow. In our projections, STEM is second only to Healthcare as the fastest-growing occupational category in the economy.[5] But we also find that the occupations competing for STEM workers are growing rapidly, too. In fact, the occupations that poach top STEM talent are also among the fastest-growing and highest-paid in the economy. The intensifying demand for STEM competencies contributes to a process that we call diversion. We define diversion as a process through which both students and workers steer away from STEM degrees and STEM careers for numerous reasons. Diversion is both voluntary and involuntary and students and workers divert at various points throughout K-12 and postsecondary education as well as in the workforce.

The diversion of native-born STEM talent into non-STEM educational and career pathways will continue and likely accelerate in the future. This diversion of native-born STEM talent may contribute to an increasing reliance on foreign-born STEM talent among American employers.[6]

THE GROWING DEMAND FOR STEM TALENT ALLOWS AND ENCOURAGES THE DIVERSION OF STUDENTS AND WORKERS WITH STEM COMPETENCIES.

- Some of the voluntary diversion we describe occurs in the K-12 education system. Our K-12 education system produces enough talent in math and science to fill our need for traditional STEM workers, but more than 75 percent of these students do not enter STEM majors in college.[7]
- Students also fall out of the STEM pipeline while in college (38% of those students who start with a STEM major do not graduate with one).[8,9]
- Immediately after graduation, 43 percent of STEM graduates do not work in STEM occupations.[10]

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[5] There is some discrepancy in how we rank the fastest-growing occupations, and this is related to how we rank Healthcare. We can split Healthcare into two separate occupational categories: Healthcare Support occupations and Healthcare Professional occupations. If we keep Healthcare as one broad group, STEM is the second-fastest growing occupational cluster. However, if we list Healthcare Support and Healthcare Professional occupations separately, then STEM is the third-fastest growing cluster.

[6] Without sufficient reform of the rules regarding the selection of prevailing wages for H-1B visas, the likelihood of added downward pressure on wages within these occupations remains high.

[7] The ability of U.S. students to transition outside of their initial field of study, and later at several points in their career, is a mark of the immense flexibility of opportunities in the U.S. labor market. In Europe, for example, the connection between education and training is far more rigid, as many of their apprenticeship programs link education and career training with occupations at a much earlier age, and are more difficult to transition out of.

[8] Compared with other fields of study, STEM majors are "middle-of-the-road" in terms of attrition of its graduates into other fields (if we remove the sub-baccalaureate STEM workers). For example, the comparable rate for teachers is substantially higher at the beginning of their career, while those in the computing fields have the highest retention rates later in their career (defined as 10 years into the workforce).

[9] Many students drop out of the STEM pipeline between high school and college, or in college. These students either do not enroll in college or do not complete a degree—any degree. Thirty percent of students who score in the top quartile on a math skills test in high school, clearly demonstrating abilities in STEM, do not have any college degree eight years after graduating high school. This represents an enormous pool of talent from which we could potentially draw to get more workers with STEM competencies. Almost half of students in the second quartile on the same test do not have a college degree eight years after graduating high school.

[10] These numbers only include students with Bachelor's degrees. Our diversion analysis details only Bachelor's degrees.

- STEM attrition continues 10 years into the workforce, as 46 percent of workers with a Bachelor's degree in STEM have left the field, oftentimes for higher paying managerial roles.[11]

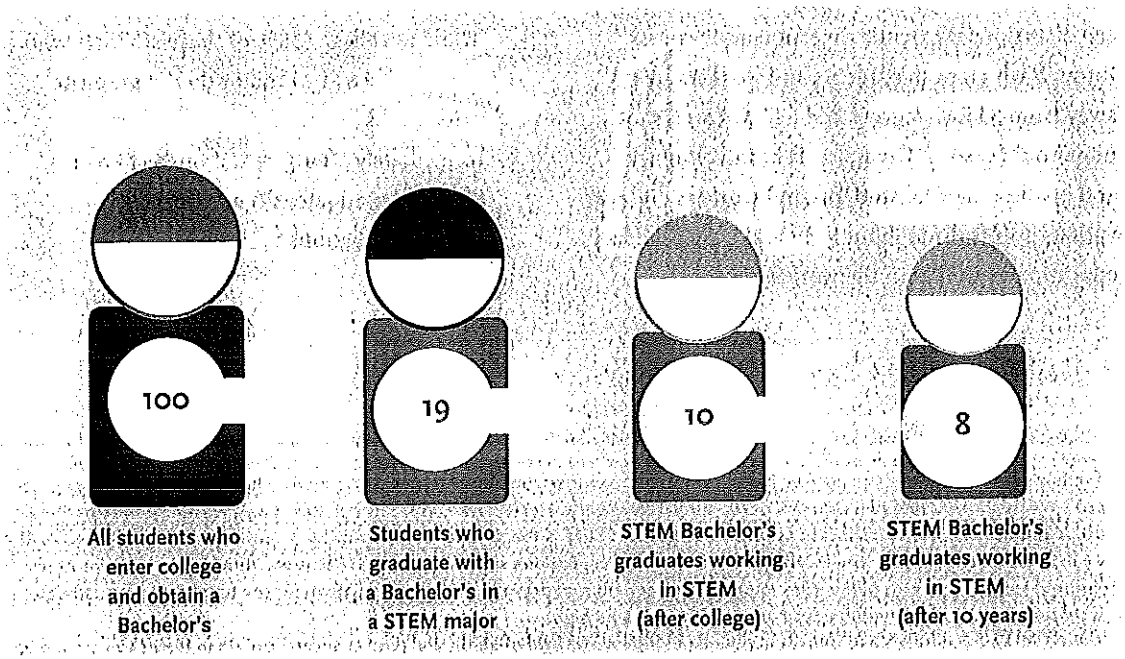
Diversion of domestic STEM talent away from STEM occupations is driven by three interconnected factors:

1. There is a set of core cognitive competencies (knowledge, skills, and abilities) associated with STEM.[12] These core cognitive STEM competencies exist in an increasing share of highly-paid and prestigious non-STEM occupations.[13]

2. Many potential STEM workers never work in STEM occupations, or leave them, because they have *work interests* and *work values* that are more compatible with other careers.[14]

The core work interests associated with STEM occupations are Realistic and Investigative interests. People with these work interests enjoy practical, hands-on problem-solving (Realistic) and working with ideas and solving problems (Investigative), but there are other work interests that compete for STEM talent, including Artistic interests (focused on self-expression); Social interests (focused on the well-being of others); Enterprising interests (associated with selling and leading); and Conventional interests (associated with highly ordered work environments).

Similarly, the work values associated with STEM are Achievement, Independence, and Recognition, but there are other work values that compete for STEM talent such as Relationships (valuing friendly, noncompetitive work environments),



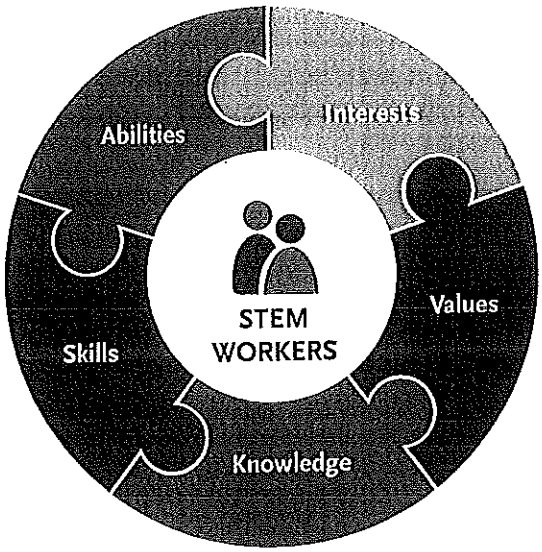
[11] Oftentimes, managers are still working in field, but these workers are counted as managerial workers. However, in most cases, an individual would not have had an opportunity to perform this job without previous STEM training.

[12] Our analysis of STEM competencies relies on the Occupational Information Network (O*NET) administered and updated by the Department of Labor/Employment and Training Administration, Version 14.0.

[13] This is not to suggest, of course, that all STEM competencies are transferable across the economy. Indeed, we are at this point referring to the subset of knowledge, skills, and abilities (defined later) traditionally associated with STEM occupations that are increasingly demanded by many other types of employers outside of STEM occupations.

[14] We identify STEM work values and STEM work interests as noncognitive competencies required for success in the occupation. This is a point of contention with many of our reviewers. While interests and values are usually characteristics of an individual, we extend this notion as a personal characteristic required for an individual to be successful in an occupation.

Support (valuing supportive management), and Working Conditions (valuing job security and good working conditions).



3. While STEM earnings are high relative to most other occupations, students and workers with STEM cognitive competencies have access to superior earnings and career choices, especially in Managerial and Professional and Healthcare Professional occupations.

OUR ANALYSIS SHOWS THAT TRADITIONAL STEM JOBS HAVE GROWN FASTER THAN JOB GROWTH OVERALL FOR DECADES, AND THE FUTURE PROMISES MORE OF THE SAME.

Through 2018, the share of STEM occupations in the economy will grow to 5 percent, up from 4.4 percent in 2005—a growth in the number of STEM jobs from 6.8 million in 2008 to 8 million by 2018.[15]

STEM occupations will grow far more quickly than the economy as a whole (17% versus 10%), and will be the second-fastest growing occupational cluster, after Healthcare occupations.[16]

We find that over the same period, there will be 2.4 million job openings in STEM: 1.1 million net new STEM jobs and 1.3 million STEM job openings to replace STEM workers who permanently leave the workforce.[17]

STEM workers are employed in highest concentrations in the Professional and Business Services industry, while the bulk of Engineers and Engineering Technicians are in Manufacturing.

THE VAST MAJORITY OF STEM JOBS REQUIRE SOME FORM OF POSTSECONDARY EDUCATION OR TRAINING.

- By 2018, 92 percent of traditional STEM jobs will be for those with at least some postsecondary education and training, the third-highest educational concentration among all the occupational clusters after Education and Healthcare Professionals.
- Close to two-thirds of STEM job openings will be for those with Bachelor's degrees and above (65%).
- By 2018, roughly 35 percent of the STEM workforce will be comprised of those with sub-baccalaureate training,[18] including:
  - 1 million Associate's degrees,
  - 745,000 certificates, and
  - 760,000 industry-based certifications.

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[15] It is difficult to pinpoint exactly how many STEM workers are ideal for increasing innovation economy-wide. In theory, we should continue to add STEM workers and STEM jobs as long as each additional worker produces added value. We limit our measure of STEM demand to the more prosaic standard of projected job growth in industries and occupations that employ traditional STEM workers.

[16] Please see footnote 5.

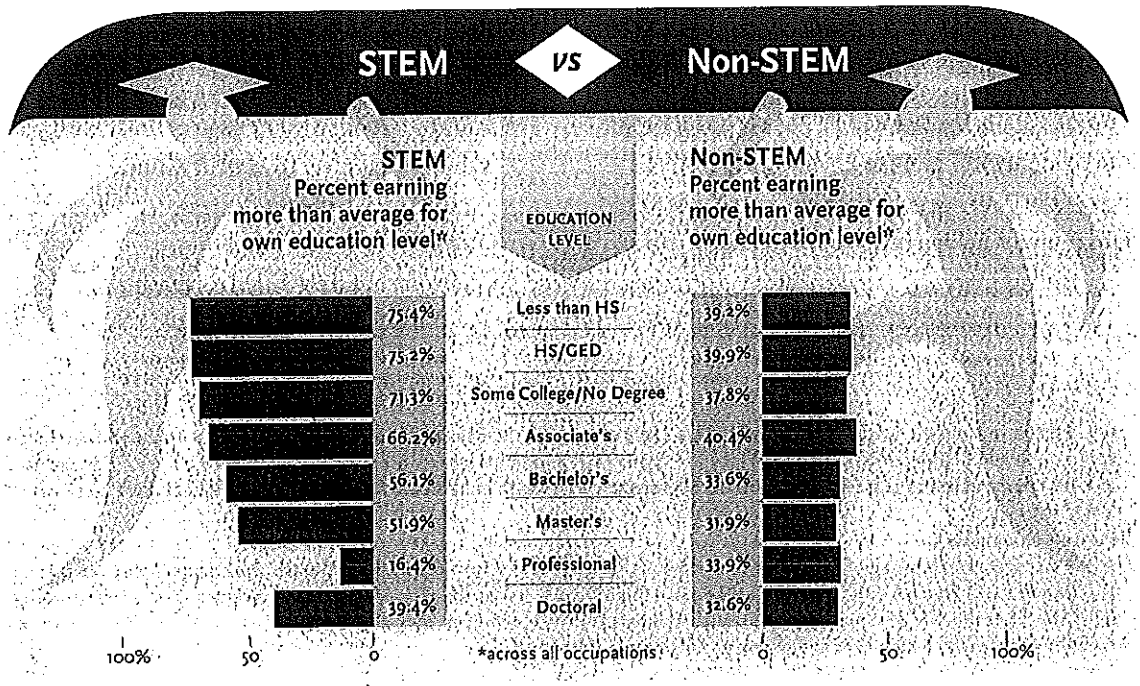
[17] In the Georgetown University Center on Education and the Workforce's 2010 report, *Help Wanted: Projections of Jobs and Education Requirements Through 2018*, we project 2.8 million STEM jobs by 2018. The *Help Wanted* report includes social science workers in STEM, while this STEM report excludes social scientists from our definition of STEM.

[18] Including those with a high school diploma and high school dropouts.

- Many STEM occupations also require industry-based certifications, especially Computer and Engineering and Engineering Technician occupations.
- Undergraduate STEM majors, especially Life and Physical Science majors, have extremely high rates of graduate degree attainment. Fifty-four percent of Biology and Life Science majors go on to graduate school, as do 48 percent of Physical Sciences majors.[19]

WE FIND THAT STEM WAGES ARE HIGH AND HAVE KEPT UP WITH WAGES AS A WHOLE OVER THE LAST 30 YEARS.

- Although some STEM jobs, such as PhD jobs in academia, face oversupply, rising relative wage advantages of STEM sub-baccalaureate, STEM Bachelor's, and STEM graduate degrees suggest increases in the relative demand for STEM competencies.
- STEM workers have earnings advantages at nearly every level of educational attainment. In fact:
  - Over 75 percent of STEM workers with less than a high school education make more than the average for workers with less than a high school education;
  - Over 75 percent of STEM workers with a high school diploma make more than the average for workers with a high school diploma;
  - Over 71 percent of STEM workers with some college but no degree make more than the average for workers with some college but no degree;
  - Two-thirds (66%) of STEM workers with an Associate's degree make more than the average for workers an Associate's degree;
  - Over 56 percent of STEM workers with a Bachelor's degree make more than the average for workers a Bachelor's degree;
  - Over half (52%) of STEM workers with a Master's degree make more than the average for workers with a Master's degree.
- People with an undergraduate major in STEM make substantially more over their lifetimes than non-STEM majors, by about $500,000 ($1.7 million versus $2.2 million).



[19] For those with a terminal Bachelor's degree working full-time, full-year.

- Wages for Engineers and Engineering Technicians have grown at 18 percent since the early 1980s. This wage growth is slow relative to that of all other workers, yet the average salary for Engineers and Engineering Technicians ($78,000) is higher than all other STEM occupations.

BUT AT THE SAME TIME, WAGES IN HEALTHCARE PROFESSIONAL AND MANAGERIAL AND PROFESSIONAL OCCUPATIONS HAVE GROWN FASTER THAN STEM WAGES, ESPECIALLY AT THE GRADUATE LEVEL.

- STEM majors can earn more over their lifetimes in some non-STEM occupations than in STEM occupations.
- At the Bachelor's and graduate degree level, while STEM workers start out with high wages after college, midcareer earnings for many Managerial and Professional occupations surpass those for STEM. By age 35, STEM workers with a graduate degree make about $50,000 less than Healthcare Professional workers with a graduate degree. For Bachelor's degree-holders, Managerial and Professional workers make about $10,000 more than STEM workers by midcareer (but STEM workers at the Bachelor's degree level still do better than Healthcare Professionals at the Bachelor's degree level).

IN SPITE OF THE GLOBALIZATION OF THE STEM ENTERPRISE, OUR STEM WORKFORCE STILL OVERWHELMINGLY DRAWS FROM WHITES AND MALES, ESPECIALLY AT THE MOST SENIOR LEVELS.

Women and minorities continue to be underrepresented in STEM occupations relative to their position in the labor market as a whole. Only 23 percent of workers in STEM are women, compared with 48 percent of workers in all occupations. African-Americans and Latinos are underrepresented relative to their share of workers in all occupations, while Asians are a larger share of STEM workers than they are in the labor force in general.[20]

Women and minorities are also paid less than their White male counterparts in STEM, even when they work the same number of hours. However, the earnings gaps are smaller in STEM than in other occupations, and compared with other occupations, women and minorities are better compensated in STEM.

Racial/ethnic and gender diversity in STEM is still lacking, although Asians are a notable exception. In fact, Asians outearn their White male counterparts in all STEM occupations.

Recently, women have become the majority in certain STEM majors, including Biology and Statistics and Decision Science (they are also a large portion of all Mathematics majors). However, they have yet to translate their gains in school into good-paying jobs. Women are strong in majors

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[20] See George, Yolanda S., et al. "In Pursuit of a Diverse Science, Technology, Engineering, and Mathematics Workforce: Recommended Research Priorities to Enhance Participation by Underrepresented Minorities." *American Association for the Advancement of Science, and National Science Foundation* (2001). Web.; and Malcom, Shirley M., Yolanda S. George, and Virginia V. Van Horne, Eds. *The Effect of the Changing Policy Climate On Science, Mathematics, and Engineering Diversity*. Washington, DC: American Association for the Advancement of Science, 1996. Print. Mason, Mary Anne. "Better Educating Our New Breadwinners: Creating Opportunities for All Women to Succeed in the Workforce." The Shriver Report: A Woman's Nation Changes Everything. Ed. Heather Boushey and Ann O'Leary. Washington, DC: Center for American Progress, October 2009. 160-194. http://www.americanprogress.org/issues/2009/10/pdf/awn/a_womans_nation.pdf (accessed August 2, 2011).

that lead to careers in Healthcare occupations but are less-represented in the occupations of Engineering and Physical Sciences.

Powerful demographic shifts in American society will have a significant impact on STEM employment going forward. The continued underrepresentation of women and minorities in STEM poses a serious challenge to both economic efficiency and democratic and social equity.

WE HAVE BEEN USING A STRATEGY OF RELYING ON FOREIGN-BORN WORKERS TO PLUG THE LEAKS IN OUR STEM PIPELINE.

Foreign-born workers account for 17 percent of all STEM workers, compared with 12 percent in labor force as a whole.[21] In some STEM occupations, foreign-born workers make up even more of the STEM labor force—for example, 25 percent of all Physical Scientists are foreign-born. Foreign-born workers often start as foreign-born students, who then stay in the United States to work.

- 44 percent of students on F-1 student visas were here to study STEM in 2008.
- 63 percent of foreign-born students in STEM fields are in graduate programs.
- 59 percent of PhD recipients in engineering fields in 2009 were foreign-born.
- The share of the foreign-born workforce in STEM has more than doubled in the last 60 years, from 7 percent in 1950 to 16 percent in 2000 to 17 percent in 2008.
- Increasingly, foreign-born STEM workers are from Asia. Fifty-nine percent of foreign-born workers in STEM occupations were from Asia in 2000.
- Foreign-born STEM workers are more likely than other foreign-born workers to become naturalized citizens.

We are relying heavily on the foreign-born workforce to fill our STEM jobs. Whether we can continue to employ this strategy as wages become more competitive in other countries remains an open question. It is unlikely that we will continue to be able to successfully compete for the top international talent.

GOING FORWARD, WE WILL NEED MORE WORKERS WITH STEM COMPETENCIES—BUT NOT NECESSARILY TRADITIONAL STEM WORKERS IN TRADITIONAL STEM JOBS.

As the nature of innovation changes, the cognitive competencies traditionally associated with STEM are intensifying in a host of non-STEM occupations. The dispersion of cognitive competencies outside of STEM has resulted in an artificial shortage—not of workers, but of workers with STEM competencies. In school and in the labor market, the pull of wages, personal interests, work interests and work values has allowed STEM talent to divert away from STEM occupations and into other occupations, such as Healthcare Professional and Managerial and Professional, which demand similar cognitive competencies. This diversion has put a significant strain on the STEM workforce at the most elite levels.

Concern for the supply of the highest-performing STEM workers tends to point toward strategies targeted at relatively small portions of American students among our top science and math performers. However, these elite workers are not the

[21] Although it would be ideal to compare domestic STEM workers with guest workers, foreign-born students on work visas, and foreign-born workers, it is almost impossible for independent researchers to determine the exact number of guest or student workers on various types of F-1, H-1B visas, and other visas that permit work. Throughout the report we use data on foreign-born workers. We believe that there is a positive correlation between foreign-born workers and guest-workers who eventually go through the legal permanent resident (green card) and citizenship process.

entirety of the STEM workforce. The growing demand for STEM competencies outside traditional STEM occupations requires a more broad-reaching strategy in the American K-16 education system. The dialogue on the adequacy of our STEM workforce ultimately leads to the more comprehensive conversation about American education.

While many remain focused on a small cadre of elite STEM workers, more than a third of all jobs in STEM through 2018 will be for those with less than a Bachelor's degree. There is increasing demand for STEM talent at the sub-baccalaureate level and our education system has, thus far, not adequately produced these workers. Going forward, our Career and Technical Education system will need a stronger STEM curriculum at the high school and sub-baccalaureate level that is more tightly linked with competencies necessary for STEM jobs.

The STEM workforce will remain central to our economic vitality well into the future, contributing to innovation, technological growth, and economic development. Capable STEM students, from K-12 all the way through the postgraduate level, will be needed in the pipeline for careers that utilize STEM competencies and increase our innovative capacities.

We cannot win the future without recognizing the growing need for STEM competencies across the economy. We need more STEM talent—but not only for traditional STEM workers in traditional STEM occupations.

Our STEM analysis also includes state-by-state data. By state, we find that Washington, D.C., has the highest proportion of STEM jobs nationwide, while California has the highest number of STEM jobs. The states with the fastest rates of STEM growth are Virginia, Nevada, and Utah.

For more information, please see the STEM State-Level Analysis available at cew.georgetown.edu/STEM.

STEM COMPETENCIES

KNOWLEDGE CLASSIFICATIONS are content domains familiar to educators. Examples include mathematics, chemistry, biology, engineering and technology, English language, economics and accounting, clerical and food production.

SKILLS are competencies that allow continued learning in a knowledge domain. They are divided into content, processing, and problem-solving skills. *Content skills* are fundamental skills needed to acquire more specific skills in an occupation. These include reading comprehension, active listening, speaking, writing, mathematics, and science. *Processing skills* are procedures that contribute to the more-rapid acquisition of knowledge and skills. These include critical thinking, active learning, learning strategies, and monitoring self-awareness. *Problem-solving skills* involve the identification of complex problems and related information required to develop and evaluate options and implement solutions.

ABILITIES are defined as enduring and developed personal attributes that influence performance at work. In the parlance of education psychology, these closely approximate "aptitudes." O*NET divides abilities broadly into categories such as creativity, innovation, mathematical reasoning, and oral and written expression. Each of these broad abilities is subdivided into component elements. For example, innovative abilities include fluency of ideas, problem sensitivity, deductive reasoning, and inductive reasoning. Other abilities include oral expression, spatial orientation, and arm-hand steadiness.

WORK VALUES are individual preferences for work outcomes. Important outcomes for individuals include recognition, achievement, working conditions, security, advancement, authority, social status, responsibility, and compensation.

WORK INTEREST is defined as individual preferences for work environment. Interests are classified as realistic, artistic, investigative, social, enterprising, and conventional. Individuals who have particular interests—artistic interest, for example—are more likely to find satisfaction in occupations that fit with those interests. Of course, an incumbent can have an artistic interest and not be in an occupation where s/he is able to exercise that interest (for example, accounting is an occupation that is not the best outlet for artistic interest). However, O*NET allows us to identify which interests can be fulfilled in which occupations—for example, that an incumbent with artistic interest might like a job as a designer.

KNOWLEDGE ASSOCIATED WITH STEM OCCUPATIONS

Production and Processing: Knowledge of raw materials, production processes, quality control, costs, and other techniques for maximizing the effective manufacture and distribution of goods.
Computers and Electronics: Knowledge of circuit boards, processors, chips, electronic equipment, and computer hardware and software, including applications and programming.
Engineering and Technology: Knowledge of the practical application of engineering science and technology. This includes applying principles, techniques, procedures, and equipment to the design and production of various goods and services.
Design: Knowledge of design techniques, tools, and principles involved in production of precision technical plans, blueprints, drawings, and models.
Building and Construction: Knowledge of materials, methods, and the tools involved in the construction or repair of houses, buildings, or other structures such as highways and roads.
Mechanical: Knowledge of machines and tools, including their designs, uses, repair, and maintenance.

STEM COMPETENCIES *(continued)*

Mathematics: Knowledge of arithmetic, algebra, geometry, calculus, statistics, and their applications.
Physics: Knowledge and prediction of physical principles, laws, their interrelationships, and applications to understanding fluid, material, and atmospheric dynamics, and mechanical, electrical, atomic and sub-atomic structures and processes.
Chemistry: Knowledge of the chemical composition, structure, and properties of substances and of the chemical processes and transformations that they undergo. This includes uses of chemicals and their interactions, danger signs, production techniques, and disposal methods.
Biology: Knowledge of plant and animal organisms and their tissues, cells, functions, interdependencies, and interactions with each other and the environment.

SKILLS ASSOCIATED WITH STEM OCCUPATIONS

Mathematics: Using mathematics to solve problems.
Science: Using scientific rules and methods to solve problems.
Critical Thinking: Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions, or approaches to problems.
Active Learning: Understanding the implications of new information for both current and future problem-solving and decision-making.
Complex Problem Solving: Identifying complex problems and reviewing related information to develop and evaluate options and implement solutions.
Operations Analysis: Analyzing needs and product requirements to create a design.
Technology Design: Generating or adapting equipment and technology to serve user needs.
Equipment Selection: Determining the kind of tools and equipment needed to do a job.
Programming: Writing computer programs for various purposes.
Quality Control Analysis: Conducting tests and inspections of products, services, or processes to evaluate quality or performance.
Operations Monitoring: Watching gauges, dials, or other indicators to make sure a machine is working properly.
Operation and Control: Controlling operations of equipment or systems.
Equipment Maintenance: Performing routine maintenance on equipment and determining when and what kind of maintenance is needed.
Troubleshooting: Determining causes of operating errors and deciding what to do about it.
Repairing: Repairing machines or systems using the needed tools.
Systems Analysis: Determining how a system should work and how changes in conditions, operations, and the environment will affect outcomes.
Systems Evaluation: Identifying measures or indicators of system performance and the actions needed to improve or correct performance, relative to the goals of the system.

ABILITIES ASSOCIATED WITH STEM OCCUPATIONS

Problem Sensitivity: The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing that there is a problem.
Deductive Reasoning: The ability to apply general rules to specific problems.
Inductive Reasoning: The ability to combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events).
Mathematical Reasoning: The ability to choose the right mathematical methods or formulas to solve a problem.

STEM COMPETENCIES *(continued)*

Number Facility: The ability to add, subtract, multiply, or divide quickly and correctly.
Perceptual Speed: The ability to quickly and accurately compare similarities and differences among sets of letters, numbers, objects, pictures, or patterns. The things to be compared may be presented at the same time or one after the other. This ability also includes comparing a presented object with a remembered object.
Control Precision: The ability to quickly and repeatedly adjust the controls of a machine or a vehicle to exact positions.

WORK INTERESTS AND WORK VALUES ASSOCIATED WITH STEM OCCUPATIONS

Work Values

Achievement: These jobs let you use your best abilities, see the results of your efforts and get the feeling of accomplishment.
Independence: These jobs allow you to do things on your own initiative, and make decisions on your own.
Recognition: These jobs offer good possibilities for advancement, and offer prestige or with potential for leadership.

Work Interests

Realistic: Realistic occupations frequently involve work activities that include practical, hands-on problems and solutions. They often deal with plants, animals, and real-world materials like wood, tools, and machinery. Many of the occupations require working outside, and do not involve a lot of paperwork or working closely with others.
Investigative: Investigative occupations frequently involve working with ideas, and require an extensive amount of thinking. These occupations can involve searching for facts and figuring out problems mentally.

STEM

is comprised of a full report, a state report and an executive summary. All can be accessed at cew.georgetown.edu/STEM

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