



TO: Mayor and Council

FROM: Larry Collins, Interim Community Services Area Administrator
Alexis DiLeo, City Planner
Brett Lenart, Interim Director, Office of Community and Economic Development
Cresson Slotten, Systems Planning Manager

CC: Steven D. Powers, City Administrator

SUBJECT: Council Agenda Responses

DATE: 11/16/15

AC-1 – Report on Arthur Miller House Relocation

Question: Were there considerations for grading/landscaping the area around the house? Or is this captured under site prep? Are "park" uses envisioned outside the building during daytime hours? (Councilmember Westphal)

Response: Grading/landscaping are captured under site prep. Park uses are envisioned outside the building, however, placement of building on site, and associated design and engineering will determine final configuration of space outside the building. This may limit the uses of the space outside the building. Suggest that decision regarding use(s) of the building be made before finalizing the decision regarding acquiring and relocating the building. As it is mentioned in the memo that CDBG funding was used for the development of the Liberty Plaza and funding documents be located and reviewed prior to making a final decision about use(s) of the building to avoid any non-compliance with the conditions of CDBG funding.

CA-3 – Resolution to Approve the Purchase of 10.1 acres of Parcel Tax ID Number I-09-10-45—001, Located at the Northwest Corner of Nixon and Dhu Varren Roads and Appropriate \$39,850.00 from the Open Space and Parkland Preservation Millage Proceeds (8 Votes Required)

Question: Please confirm that, if the City purchases this 10.1 acres of property from the developer, it will be zoned public land and will be included in future parks planning. Also, please confirm that the 5.9 acres the developer is donating to City parks will also be zoned public land and will be included in future parks planning. (Councilmember Briere)

Response: Yes, once the deeds are transferred to the city for both the 10.1 acres and 5.9 acres, they will be rezoned to public land and will become part of future parks master plan.

Question: This agenda item indicates the purchase price is \$35,350 while the Nixon Farms North Development agreement (P-11) states that the developer will sell the 10.1 acres “for the fair market appraised value (currently estimated at \$35,350).” Is the price firm or will further appraisals be conducted? (Councilmember Lumm)

Response: An appraisal has been completed and the purchase price is firm.

Question: If the City purchases this land and adds the 16 acres of parkland (10.1 acre purchase + 5.9 acre donation), what impact (if any) does that have on the parkland purchase associated with the Woodbury Club site? Also, what is the current status of that potential purchase. (Councilmember Lumm)

Response: The purchase of the 16 acres does not have an impact on the Woodbury purchase. They are separate transactions with separate landowners. Currently, the landowner and the City are not close in their valuation of the property for the Woodbury Club site.

B-1 – An Ordinance to Amend Chapter 55 Zoning), Zoning of 69 Acres from TWP (Township District) to R4A (Multiple-Family Dwelling District) WITH CONDITIONS, Nixon Farm North Zoning, 3381 Nixon Road (CPC Recommendation: Approval – 7 Yeas and 0 Nays) (Ordinance No. ORD-15-15) (8 Votes Required)

B-2- An Ordinance to Amend Chapter 55 Zoning), Zoning of 41 Acres from TWP (Township District) to R4A (Multiple-Family Dwelling District) WITH CONDITIONS, Nixon Farm South Zoning, 2999 Nixon Road (CPC Recommendation: Approval – 7 Yeas and 0 Nays) (Ordinance No. ORD-15-16) (8 Votes Required)

Question: The developer has offered an easement for a reconfigured intersection. After consulting the schematic drawing of the round-a-bout plan, I have two questions.

- a. Is an easement – rather than ownership – of a public street common? What repercussions, if any, could be experienced by users of a public street over an easement versus a public street over public land?

- b. The reconfigured intersections vacates some land that is currently a public street. What happens to the ownership of this land?
(Councilmember Briere)

Response:

6a. The granting of a roadway easement is the typical legal instrument utilized by the City for this type of improvement. There are no repercussions that could be experienced by users of a public street within a roadway easement granted to the City compared to a public street within publicly owned land.

6b: The reconfigured intersection does not vacate any land. The current pavement for Dhu Varren Road will be removed but the right-of-way will not change. After the additional right-of-way easement is acquired on the south side of Dhu Varren Road for the realignment, the total right-of-way will be unusually large.

Question: In the event the cost of redesigning and reconstructing the Dhu Varren/Nixon/Green intersection exceeds the amount currently projected, does the developer's share of the cost increase? (Councilmember Briere)

Response: No. In the event that the cost of the intersection exceeds the amount projected, the developer is not responsible for the cost increase. The developer will contribute 50% of the project cost up to \$1,025,460.00.

Question: In the event that the intersection is constructed prior to any other developer's project being approved by Council, will subsequent developers have to pay for improvement charges (the intersection) and – if they do – will any of those payments be returned to Toll Brothers? (Councilmember Briere)

Response: No. Upon completion of the intersection, the city will not seek contribution for the project from other developers as any necessary improvements will already be constructed.

Question: At what point is the developer prevented from making changes in the site plan? Could the developer make such changes on a Sunday and – if the changes did not impact the wetlands, trees, storm water systems, fire and police access, and other considerations – have that revised site plan presented for approval on a Monday.
(Councilmember Briere)

Response: Developers can propose changes anytime during the review and approval process. Once approved, Chapter 57 (Subdivision and Land Use Control) regulates how changes are approved, and the Conditional Zoning Statement of Conditions limits the developer to administrative amendments without the addition of dwelling units. The developer would need to formally submit an administrative amendment petition which typically take 1 to 2 months to review and approve.

Question: The conditional zoning document states, "the City shall return to Toll Brothers any difference between the actual and the projected cost." If the project costs for the intersection re-alignment come in under budget, will the developer be reimbursed at 100% of the savings or 50%? That is, if the project is \$50,000 under budget, would Toll Brothers receive all of that \$50,000 or would their contribution stat at 50%? (Councilmember Warpehoski)

Response: The developer will be reimbursed at 50%. Yes, Toll Brothers will receive a refund in the amount of the other developer's contribution.

Question: What happens if other developers contribute? Would Toll Brothers receive a refund then in the amount of the other developer contribution? (Councilmember Warpehoski)

Response: The developer will be reimbursed at 50%. Yes, Toll Brothers will receive a refund in the amount of the other developer's contribution.

Question: The State conditional zoning statute, MCL 125.3405, provides that "if the conditions are not satisfied within the time specified under this subsection, the land shall revert to its former zoning classification." If the time limit in the conditional zoning for the Nixon Farm projects expired, what zoning would the property revert to? It seems that it cannot revert to township agricultural zoning status, because the property has been annexed into the City and township zoning would be inapplicable. It also seems that the property could not revert to City agricultural, because the property has never had that zoning designation. (Councilmember Eaton)

Response: The term revert is used in the Enabling Legislation, which doesn't necessarily contemplate annexation. In this case, the zoning classification will not actually revert because it has never been zoned by the city. However, as set forth in the Statement of Conditions, a default on the zoning conditions will allow the City to "zone" the property," to AG (Agriculture-Open Space) district in the short term. In the long term, the City has the authority to again rezone the sites consistent with the Master Plan or most consistent with the surrounding properties, or rezone based on another petition.

Question: Residents have said that there is low water pressure issues in Barclay Park, parts of Arbor Hills, potentially Nixon Farms North. Can staff provide any additional information on this issue? Past measurement, ideal versus current readings, etc? (Councilmember Kailasapathy)

Response: In 2001, the water tower on Plymouth Road was raised to improve the water pressures in the northeast part of the City. Based on the pressure records the City has on file, the raising of the tank increased the water pressure approximately 25 psi in this area. Recent pressure tests performed on fire hydrants within Barclay Park and Arbor Hills indicate pressures ranging from 55-60 psi, which is within the targeted operating range for the water system of 40-100 psi.

Question: What will happen to the current configuration of the Nixon-Dhu Varren round about if the Nixon corridor study comes out with a recommendation that the round about wait times are too long. For example, currently it could take you about 12 minutes to get through that intersections in the evening commute times going North on Nixon. What if this increases to 20 minutes? How can we go ahead and plan to build the roundabout without considering the conclusions of the Nixon corridor study?
(Councilmember Kailasapathy)

Response: The intersection study performed by Opus already addressed capacity at the intersection. Regardless of the results of the Nixon Road Corridor study, the volume of traffic at this location does not require a larger (i.e. multi-lane) roundabout.

Question: If the Nixon-Dhu Varren corridor study suggests that we make the roundabout larger, is there enough space under the easement agreement to provide that land to the city to build a larger round about (maybe even with two lanes)?
(Councilmember Kailasapathy)

Response: As noted in the response above, the roundabout will not be required to be larger as a result of the Nixon Road Corridor Study, so there is adequate space under the easement agreement for the roundabout.

Question: Are there financial risks to the city of accepting the conditional zoning terms? When is the petitioner's roundabout contribution going to be deposited in escrow? Is there any circumstance, aside from the project not being started, where the city would be on the hook for more than half of the roundabout cost? Is the roundabout construction cost a conservative estimate? (Councilmember Westphal)

Question: Are there financial risks to the city of accepting the conditional zoning terms? When is the petitioner's roundabout contribution going to be deposited in escrow? Is there any circumstance, aside from the project not being started, where the city would be on the hook for more than half of the roundabout cost? Is the roundabout construction cost a conservative estimate? (Westphal)

Response: We are not aware of any financial risks as the City will only construct the intersection in association with these developments if the developer moves forward with construction. The Traffic Mitigation Agreement requires that the developer deposit their contribution for the intersection improvements into escrow within five business days of the City approving the site plan. If the developer does not close on the property, the City will not begin construction of the intersection, so there is not a circumstance where the City will be responsible for more than half of the roundabout cost. Staff believes the current estimated cost for the roundabout to be a conservative one.

Question: What is the approximate difference in the share of the city's anticipated cost of improving the intersection with the Toll development scenario vs. the project not happening and our needing to complete the roundabout in the future ourselves (e.g., needing to purchase/condemn land to complete the roundabout), assuming we can

secure federal grants to cover half the construction cost in the future? (Councilmember Westphal)

Response: Assuming that a Congestion Mitigation – Air Quality (CMAQ) grant could be obtained for the project in the future, the City’s cost to do the project would remain approximately the same, with the exception of the additional cost, both in time and money, of obtaining the right-of-way.

Question: The “List of Conditions” contains the sentence, “The City and developer agree that the reconfiguration of the intersection of Nixon Road, Dhu Varren Road, and Green Road at the SE corner of the property is necessary for use and development of the land to provide for safe and efficient traffic flow, and to accommodate additional traffic from the development of the property.” What is the purpose of this sentence and what is its legal significance? Also, if the reconfiguration of the intersection is “necessary for development of the land to provide safe, efficient traffic flow and accommodate the additional traffic,” why wouldn’t the developer(s) bear all of the cost for the improvement? (Councilmember Lumm)

Response: This sentence acknowledges that the City and developer agree that the intersection improvements are necessary for the project, consistent with the stated conditions. It is an introductory sentence to the conditions themselves. Although the intersection improvements are necessary for these developments to meet the City’s required level of service for intersections, existing traffic from other sources remains a significant contributing factor to the level of service at this intersection.

Question: The list of conditions (i) speaks to granting of easements. It states that the intersection “shall be consistent with the Site Plan as approved by City Council and may change from the conceptual plan.” Can you please clarify what “shall be consistent with ... but may change” actually means? What degree of flexibility does that give the City to change the design and still require that Toll Brothers provide the easements? (Councilmember Lumm)

Response: The intersection has only been examined to a conceptual design level of detail. The detailed design for the intersection improvements has not been completed. The City has flexibility to finalize the engineering details as part of the final design.

Question: The list of conditions (ii) states that the Toll Brothers contribution of \$1,025,460 is a “maximum payment”, but the City “shall return to Toll Brothers any difference between the actual and projected cost.” Although it does not say it, I’m assuming that means 50% of the difference not “any” difference – please confirm. Also, if the City and developer share proportionally in any cost underruns, why would we also not share in cost overruns? (Councilmember Lumm)

Response: Toll Brothers will only be returned 50% of the difference. The City provided a conservative estimate which included a significant contingency as the developer requested that the City agree to a maximum contribution.

Question: The list of conditions (iii) states that the developer shall only construct what is approved by council plus any administrative amendments to the site plan. It goes on to say that no administrative amendment may contain more dwelling units. What can be approved administratively with regard to reconfiguration or relocation of buildings, landscaping, natural features, sidewalks, stormwater mitigation? (Councilmember Lumm)

Response: Buildings can be moved up to 10 feet, plant species can be substituted on the landscape plan, planting locations may be adjusted, up to 250 square feet of area(s) to be preserved on a natural features protection plan may be substituted within set limitations, sidewalks may be relocated (but not eliminated), and up to half of the capacity of the stormwater management system may be relocated through the administrative amendment process.

Question: The list of conditions (iv) limits the occupancy up until Oct. 30, 2017. What happens if the intersection improvement is not completed at that time? Why wouldn't that possibility be addressed specifically and the occupancy be directly linked to completing the intersection? (Councilmember Lumm)

Response: The City plans to build the intersection in the 2017 construction season, and October 30, 2017 is at the end of the construction season. The City is only obligated to complete construction of the intersection by January 1, 2018, which gives the City flexibility in completing the work. It is anticipated that the work will be completed by October 30, 2017.

Question: On the intersection, what is the specific timeline for the project, including getting into the CIP, council approval, design (RFP and completing the design work), construction (RFP and completing the construction)? (Councilmember Lumm)

Response: The Project Management Services Unit has issued an RFP for design services for this project. Should the Nixon Farms site plans be approved, the schedule provides for design work to occur in 2016, with construction beginning in the spring of 2017, which will allow for ample time to complete the project before the end of the 2017 construction season. The intersection improvement is currently included in the CIP for 2018. If the site plans are approved requiring the adjusted timeline, the CIP will be adjusted as part of the current update being considered by the Planning Commission.

Question: Am I correct that these "conditions" exist in perpetuity with the zoning while the other documents (site plan, traffic mitigation agreement, land development agreement) relate only to the current proposal. If so, why wouldn't these "conditions" specifically include the 16 acres of parkland, the completion of the intersection improvements, other commitments related to natural features/wetland use as well as agreement to participate in further traffic improvement assessments? (In response to a Q I had back in August, the response indicated that, "Any improvements (to traffic congestion along the corridor) that are implemented which are first-time improvements would likely be assessed to the neighborhood benefitting properties, including the development sites.") (Councilmember Lumm)

Response: The conditions contained in the Conditional Zoning Statement of Conditions are perpetual. State law allows a developer to make conditions to zoning, and the City to accept them. The developer has not offered any other conditions. However, the conditional zoning only allows these particular site plans to be constructed, and if they are constructed, then all of the other proposed site plan requirements will be required to be completed.

DB-1 - Resolution to Approve Nixon Farm North Site Plan and Development Agreement with Modifications to Chapter 62 Landscaping and Screening, and Wetland Use Permit, 3381 Nixon Road (CPC Site Plan Recommendation: Denial – 5 Years and 2 Nays) (CPC Modifications and Wetland Use Permit Recommendation: Approval – 7 Years and 0 Nays)

DB – 2- Resolution to Approve Nixon Farm South Site Plan and Development Agreement, with Modifications to Chapter 62 Landscaping and Screening, and Wetland Use Permit, 2999 Nixon Road (CPC Recommendation: Approval - & years and 0 Nays)

Question: When in the development process does MDEQ issue a wetland permit? Is it before a project is approved, or after the Council gives its approval? If there are differing approval timelines, please explain why those differences exist, and what effects on wetlands might be represented in those differences. (Councilmember Briere)

Response: MDEQ permits are issued after site plan approval by the City. To date, MDEQ has reviewed and approved the wetland permit but it has not been issued, pending City approval of the site plan and the developer providing financial assurances (i.e. posting a bond for the work).

Question: Within the development agreement form, it is possible to require a maximum number of residential units be constructed each year for a set number of years? For instance, the conditional zoning [conditions] establish that the developer will be permitted to receive a very limited number of certificate of occupancy permits for residential units prior to the completion of the intersection improvements. Would it be possible to establish a ceiling for new certificates of occupancy, limiting that to 100 units per year? Residents are concerned that, although the developer described the mechanism for pre-selling units and building only those units that are sold, too many units would come on line at once, and negatively impact the already existing traffic issues. (Councilmember Briere)

Response: It is possible to include such a provision in the development agreement, however, the developer must also agree to such a provision. The current limited number of certificates of occupancy to be issued set forth in the Development Agreement and the Traffic Mitigation Agreement for each development are intended to ensure that the intersection is improved before the vast majority of the Nixon Farm North and Nixon Farm South dwelling units are occupied. Once the intersection is

improved, it will have full and immediate capacity for all existing and proposed traffic volumes.

Question: What effect on water pressure is anticipated for the surrounding area upon project buildout? Have there been complaints of low water pressure in the area recently, and if so, what were the results of those investigations? Have unexpected drops in pressure been seen in similar situations and what was the remedy? What happens if water pressure becomes unacceptable for the surrounding area following construction? (Councilmember Westphal)

Response: Water pressure in this area is regulated by the height of the water tower on Plymouth Road and will not be effected with the proposed development project. The proposed developments will not stress the system as they are proposing to connect to large transmission mains (pipes) which are located in Dhu Varren and Nixon Road.

In 2001, the water tower on Plymouth Road was raised to improve the water pressures in the northeast part of the City. Based on the pressure records the City has on file, the raising of the tank increased the water pressure approximately 25 psi in this area. Recent pressure tests performed on fire hydrants within Barclay Park and Arbor Hills indicate pressures ranging from 55-60 psi, which is within the targeted operating range for the water system of 40-100 psi.

Question: Is the city contractually obligated to build the roundabout/intersection if the development moves forward? How many units may be occupied before the roundabout is complete? What is the current peak wait time at the intersection now vs. at the proposed roundabout with Nixon North and South completed? (Councilmember Westphal)

Response: The City has agreed to construct the intersection by April 1, 2018. This term is in the Traffic Mitigation Agreement for each development.

As to the peak wait time, or Peak Hour Delay, which is an average of all vehicles on that particular approach, the following is from the Nixon/Dhu Varren/Green Road Intersection Study performed for the City by Opus, which included the traffic from the Nixon Farms developments:

Condition	Approach	AM Peak Delay (seconds)	PM Peak Delay (seconds)
Existing Condition			
	Eastbound (Dhu Varren)	61.3	7.7
	Westbound (Green Road)	32.2	23.7
	Northbound (Nixon Road)	41.2	161.0
	Southbound (Nixon Road)	193.2	12.7
	Overall	98.3	74.7
Roundabout (in 2035)			
	Eastbound (Dhu Varren)	15.5	6.3

	Westbound (Green Road)	7.7	34.1
	Northbound (Nixon Road)	12.1	25.9
	Southbound (Nixon Road)	24.3	10.0
	Overall	17.0	22.1

Question: How are we assured that the privately-managed stormwater systems will be maintained in the long term? Is there an inspection schedule and remedy for non-compliance? (Councilmember Westphal)

Response: Per Chapter 63, Section 5:655(1) this development is required to follow the Rules of the Washtenaw County Water Resources Commissioner (WCWRC) for stormwater management. The Rules of the WCWRC require a stormwater facility maintenance plan to be included on the site plan. There is a “Maintenance Task and Schedule” on page 29 of the proposed site plan. The maintenance plan includes a note that the Condominium Association will assess its members to pay for all maintenance activity on an annual basis. The development will also be set up as a County Drainage District so that the County WCWRC will be the back up to the Condominium Association for stormwater maintenance.

Question: There are some doubts about the traffic generation numbers. Have these numbers been verified by a third party or checked by staff? Can you please give some rationale for why the peak traffic numbers do not match expectations for a typical home? (Councilmember Westphal)

Response: The traffic impact analysis for Nixon Farms North & South was reviewed by City Traffic Engineers. The trip generation for the traffic impact study was completed in compliance with the Institute of Transportation Engineer’s (ITE’s) Trip Generation methodology. No trip reductions were made for non-motorized or mass transit mode shares. The trip generation can be considered conservative for the land use. The land use selected for this project from the ITE Trip Generation Manual was LUC 233: Luxury Condominium/Townhouse. This land use selection is reasonable due to the amenities, such as attached garages, that the townhouses will have. It is assumed that the term “typical home” in the question is referring to a single-family, detached housing unit. Single-family detached units are known to produce more trips per day, on average, than apartments units, condominiums, and townhouses as documented in the ITE Trip Generation Manual.

Question: Can you please clarify the anticipated difference in intersection delay at peak times currently vs. with the roundabout at full project build out? (Councilmember Westphal)

Response: From the table provided in the response above, northbound motorists in the PM peak (rush) hour currently experience an average delay of nearly 3 minutes (161.0 sec., calculated) during the peak 60 minute time period (peak hour).

Under the full build-out scenario for year 2035, motorists traveling northbound through the roundabout intersection will experience less than one-half of a minute (25.9 sec.) of delay on average during the peak hour.

Question: With the current roundabout budget, will there be a possibility of installing pedestrian warning lights in the roundabout so that children and others get that assistance when heading to school? (Councilmember Westphal)

Response: The current budget does not anticipate installing pedestrian signals or Rectangular Rapid Flashing Beacons (RRFBs). City traffic engineers do not believe the RRFBs will be warranted at this location based on casual observation of motorists yielding to pedestrians at the nearby single lane roundabout intersection between Nixon Road and Huron Parkway. Staff intends to further review yielding patterns at the existing roundabout and the need for any enhanced pedestrian treatments on the corridor through the corridor transportation study.

Question: Have any conversations happened with the elementary school so that a collaborative walking path connection can happen? (Councilmember Westphal)

Response: As with all proposed developments, Ann Arbor Public Schools administration was informed that site plans were submitted and those plans were made available for AAPS review. No comments were returned.

Question: Please outline when engineering drawings will be completed, and what data they will use to determine the flow of water through the site. If some shifting of infrastructure is needed to comply with water issues, does this invalidate the conditional zoning? (Councilmember Westphal)

Response: Engineering drawings for the site will be prepared and submitted by the developer, staff cannot comment on their timeline. The stormwater management system has been designed to the Water Resources Commissioner's rules. All testing and data necessary to design the system has already been completed. Relocation of infrastructure can be approved as part of the engineering drawings if the relocated mains do not impact any other aspect of the site plan, such as required landscape plantings. If a relocation does impact an aspect of the site plan, revisions to the plan will be handled as set forth in Chapter 57 (Subdivision and Land Use Control). The conditional zoning will only be invalidated if the four conditions outlined in the Conditional Zoning Statement of Conditions is not satisfied.

Question: Is there any scenario where the Nixon Corridor Study will recommend a road widening that cannot be accommodated by the site plan as proposed? (Councilmember Westphal)

Response: Between the easements being granted by the developer and the existing right-of-way along Nixon Road, there is enough room to implement any reasonable measures that staff would anticipate coming out of the Nixon Road Corridor Study.

Question: Unanticipated wet weather problems are occurring in neighboring subdivisions. What mechanisms are in place to assure current neighbors and future residents that storm water facilities will be able to handle the increasingly wet weather? Have standards for water conveyance changed in the past several years? Neighbors have asked about the capacity of an under-road culvert in the northern section of the North site plan. (Councilmember Westphal)

Response: The proposed stormwater management facilities are designed in accordance with the updated Washtenaw County Water Resource Commissioner (WCWRC) stormwater standards. The WCWRC standards were recently revised to adopt the newer rainfall volume standards from NOAA Rainfall Atlas 14. The proposed culvert was designed by the developer's engineer and is reviewed/permitted by the MDEQ through an Inland Lakes and Streams permit application. This submittal was included in the draft wetland permit mentioned in a previous caucus question response above.

Question: Some have questioned the use of easements rather than land donation for parts of the anticipated roundabout. Is the city still liable for road maintenance, the quality of roundabout construction, and any legal issues that may arise from what is placed in the easement area? (Councilmember Westphal)

Response: The City will be granted an easement that gives the City all necessary rights to build, operate and maintain the intersection. The granting of a roadway easement is the typical legal instrument utilized by the City for this type of improvement.

Question: Has a watershed study ever been completed for this region? If not, is one anticipated? If so, do the site plans comport with its advice? (Councilmember Westphal)

Response: A traditional watershed study has not been performed for Traver Creek, which is the watershed that includes the Nixon Farms sites. However, as part of the City's recent Stormwater Model Calibration and Analysis project, a citywide hydraulic model was developed and analysis of the city's stormwater system was performed. The only recommendation from this study within the Traver Creek watershed was for conveyance improvements located near the intersection of Traver Road and Barton Drive.

Question: During construction, does the petitioner have a track record of handling neighborhood complaints adequately for their other projects? Or, if the project is constructed, will neighbors need to seek remedies from the city if there are complaints? (Councilmember Westphal)

Response: Complaints related to noise and construction hours are handled by the Police Department. Complaints related to grading, soil erosion control, and drainage are handled by the Land Development Coordinator. Other types of complaints are handled according to the specific type of complaint and the what chapter of code is involved. Toll Brothers has never developed a site in the City. Staff will ask the developer to be ready to address their own procedures for complaints.

Question: The draft DEQ wetland permit application on eTrakit is dated June 2015 and is 64 pages – is this the correct/most up-to-date permit? (Councilmember Lumm)

Response: Yes. The MDEQ has reviewed and approved the developer's wetland permit but it will not be issued until the site plan is approved by the City and the developer provides the required financial assurances (i.e. posts a bond).

Question: Has a final wetland permit been issued by MDEQ? Residents have asked if the DEQ scheduled/conducted a public hearing and if notifications were provided the City of the wetland permit public hearing. With regard to the DEQ permit, what assurance measures or planning requirements were established with regard to the road and structure over the tributary (Nixon Farm North site plan) to ensure that there are not negative impacts on water flow and the function of the wetlands? (Councilmember Lumm)

Response: MDEQ has reviewed and approved the draft wetland permit but it has not been issued, pending City approval of the site plan and the developer providing financial assurances (i.e. posting a bond for the work). The MDEQ issued a public notice regarding the wetland and inland lakes & streams permit application on March 31, 2015. As the sites had not yet been annexed into the City, the notice was sent to the Ann Arbor Township Clerk and not to the City of Ann Arbor. Since the MDEQ did not receive any substantive technical comments regarding the permit application, the MDEQ did not schedule or hold a public hearing regarding this permit. The 13'x 4' box culvert under the private road in Nixon Farms for the creek crossing was designed by the developer's engineer, which is required to be reviewed by the MDEQ. As part of this design process, the developer's engineer estimates the amount of flow in the creek and submits that for review by the MDEQ as part of their Inland Lakes and Streams permit application. This culvert has already been reviewed by the MDEQ and is specifically called out in the MDEQ Draft Permit #14-81-0040-P mentioned in other caucus questions.

Question: Many concerns have been raised about the Nixon Road frontage and the adequacy of the site plan to accommodate sufficient Nixon Rd. ROW to implement Nixon Rd. corridor study recommendations and the possibility of widening Nixon Road. The site plan does show the 60' ROW line, but it is difficult to assess how this will impact both the Nixon Farm South landscape and sidewalk proposed along Nixon Road – it's just a line on a site plan drawing. This is a significant aesthetic concern, and it would be helpful if a streetscape view of the Nixon Farm South Nixon Road frontage with the 60 foot ROW incorporated as a built out road could be provided. Does one exist, and is it possible to provide? (Councilmember Lumm)

Response: The described streetscape view drawing does not exist.

B-1 & B-2 and DB-1 & DB-2

Question: What guarantees, if any, are there that the City will improve the intersection by January, 2018? (Councilmember Briere)

Response: The Project Management Services Unit has issued an RFP for design services for this project. Should the Nixon Farms site plans be approved, the schedule provides for design work to occur in 2016, with construction beginning in the spring of 2017, which will allow for ample time to complete the project before the end of the 2017 construction season.

Question: What is the timeline anticipated for the property to be transferred to the developer? The developer states that they must close on the property by April. If this project were approved at the November 16 meeting, what would be the next steps that the developer and the City would take prior to property closing? (Councilmember Briere)

1. Would a complete set of engineering drawings need to be completed and approved? If so, how long ought that process take?
2. Would any permits need to be applied for an issued prior to closing? If so, how long ought that process to take?
3. If any of these or other requirements not be completed prior to closing, what impact would that have?
4. If any of these or other requirements could be expedited by the City in order for the developer to meet the requirements prior to closing, would the City have the capacity to expedite? And by how much?

Response: These questions should be directed to the developer as the City will not be actively involved in the closing for the property. We cannot comment regarding expediting closing requirements, as we are not aware of the specific need.

Question: Residents have questioned whether there would be an opportunity to amend the site plan by reducing the number of units and relocating units. Residents have asked for a further opportunity to work with the developer toward this end. Is it within the council's purview to postpone these items without the request originating from the developer? Are there any limits to such postponements, and may the Council place restrictions on the postponement? (Councilmember Briere)

Response: Answer to be provided by the City Attorney's Office.

DC – 2 – Resolution Recognizing the Second Monday in October as Indigenous Peoples Day

Question: The first resolved states that “the City Council of the City of Ann Arbor shall...”, rather than the “City of Ann Arbor shall.....” that wording seems to suggest that it’s a City Council position, not an official City one – is it worded that way for any particular reason? Also, the cover memo indicates that many other states or cities have renamed Columbus Day – can you provide more examples beyond those provided and are Traverse City and Alpena the only ones in Michigan to make the change?
(Councilmember Lumm)

Response: Response provided by Councilmember Warpehoski: The language echoed the language used by the Traverse City and draft Ypsilanti resolutions. The suggestion is well taken, I will ask that the language be updated. A number of cities, states, school districts, and tribal governments have made this or similar changes. These include:

- Albuquerque, New Mexico
- Lawrence, KS
- Portland, OR
- St. Paul, MN
- Bexar County, TX
- Anadarko, OK
- Olympia, WA
- Alpena, MI
- Minneapolis, MN
- Red Wings, MN, observes Chief Red Wing Day to honor the city's namesake, Hupaha-duta, the Dakota leader known as "Red Wing"
- Grand Rapids, MN
- Traverse City, MI
- Town of Newstead, NY
- Village of Akron, NY
- Akron Central School District, NY
- Town and Village of Lewiston, New York
- Anchorage, AK
- Carrboro, NC
- The State of Alaska
- City of San Fernando, CA
- The State of South Dakota recognizes Native American Day instead of Columbus Day

In addition, similar resolutions are moving forward at the City of Ypsilanti and the Washtenaw County Board of Commissioners.

DC – 3 - Resolution Authorizing the City Administrator to Allocate up to \$89,040 for the 2015-16 Winter Emergency Shelter and Warming Center Response (8 Votes Required)

Question: How do the populations served in this relate to those served by the Zero 2016 effort? (Councilmember Warpehoski)

Response: The Zero: 2016 effort is targeted to ending veteran and chronic homelessness (those who have been homeless for more than 1 year continuously or more than 4 times in the past three years). The population served by the Winter Shelter effort may overlap somewhat with these populations, but very minimally this year given the progress on the Zero:2016 initiative. More likely, the Winter Shelter population will include those who do not yet meet the chronic definition, are not veterans, and/or are not highly vulnerable/acute based on the common assessment tool (VI-SPDAT).

Some people served by warming centers in previous years have, fortunately, been housed through the Zero:2016 effort. We are hoping this means less demand for the 2015-16 warming center season, and will have a better sense of these outcomes later this winter.

Question: What is the status of the County's funding half of the costs – have they considered the request yet, and if not, when is it scheduled? (Councilmember Lumm)

Response: The County has approved a contribution of up to \$89,040.

Question: A year ago when Council considered this extra funding, there was some discussion about screening for AA/Washtenaw County residency in providing services – was anything done last Winter in that regard or is anything planned for this Winter? (Councilmember Lumm)

Response: The Shelter Association of Washtenaw County (SAWC) has been active in this regard. While funding streams to the shelter prohibit a residency requirement, several steps have been taken. SAWC has provided letters to any known entity who has dropped off individuals at the Shelter instructing them to refer clients to their own local networks or providers. Housing Access of Washtenaw County has now been instructed to redirect inquiries from outside the County to the individual's local housing response network. The Police Department also contacted another police department to tell them not to drop off individuals at the shelter from that community. Finally, partners have met with representatives from the State to convey that other communities need to provide adequate response services in their own communities.

Question: In the annual coordinated funding process conducted last Spring prior to approving the FY16 budget, was there any discussion of including this specific expense in that process or raising the allocation to the Shelter Association to reflect this need? (Councilmember Lumm)

Response: No, there was not substantive discussion of adding to the Coordinated Funding process. The initial pilot of this winter shelter response occurred in the fall of 2014, which was after the approval of Coordinated Funding contracts. In the middle of this year, partners were able to evaluate the success of last winter's efforts, and to

make adjustments that are incorporated into the proposal before Council. A proposed budget request for the next winter response (2016-17) can be submitted in January or February of 2016 for consideration in the City's annual budget process.

DS-1 – Resolution Calling a Public Hearing Concerning the Issuance of Bonds by the Wisconsin Public Finance Authority for the Benefit of the University Corporation for Advanced Internet Development (a/k/a Internet2)

Question: The cover memo is clear that the City has no liability for repayment of these bonds and is not a party in issuing the bonds (which is good), but it is not clear what the project being undertaken actually is. Is there any summary information on the project that can be shared or any information on potential benefits to the City, the UM, or Ann Arbor businesses? (Councilmember Lumm)

Response: Attached is a description of Internet 2 including descriptions of its mission, business, and services. The “project” being financed in Ann Arbor is the acquisition of copiers, laptop and desktop computers, video and teleconferencing equipment and some office furniture. The location of Internet2’s offices is 100 Phoenix Drive. This location serves as a headquarters for Internet2, so much of its work there relates to its business operations and finance as opposed to many of its other locations which are comprised almost exclusively of sophisticated internet computer equipment and hardware operating as part of the Internet2 national network. Internet2 services a public purpose for Ann Arbor as well as its hundreds of members by promoting research and education through its shared networks, by providing the infrastructure by which massive amounts of data are shared and providing programs for the implementation of advanced networking facilities and applications of its members. The University of Michigan, Michigan State University and Eastern Michigan State University are members of Internet2.

INTERNET2

(UNIVERSITY CORPORATION FOR ADVANCED INTERNET DEVELOPMENT)

Internet2 is a nonprofit corporation, organized under the laws of the District of Columbia, and tax-exempt under Section 501(c)(3) of the Internal Revenue Code of 1986, as amended.

Internet2 is a membership corporation, the members of which consist of 282 United States institutions of higher education, 86 private corporations, 42 regional and state education networks and 66 affiliate members. In addition, Internet2 has partnered with 65 national and educational networking organizations representing over 100 countries. Internet2 is governed by a Board of Trustees.

The mission of Internet2 is to serve the "general public welfare" by, as stated in its Articles of Incorporation:

I. To promote research and education through the cooperative and collaborative efforts of universities, agencies of federal and state governments, research and industrial companies, and other non-profit organizations by fostering the planning, design, implementation and operation of advanced computer networks and related applications for research and education;

II. To facilitate and coordinate research and educational networking programs of national and state significance; and

III. To further the research the educational missions of the members of the corporation by providing and operating advanced networking facilities and applications for non-profit and non-commercial purposes.

Internet2's mission is carried out principally through the operation and maintenance of the "Internet2 Network," an international internet network that uses optical fibers and other sophisticated equipment to deliver secure network services through which research and educational information can be shared by and with its members and the public. The Internet2 Network connects over 60,000 educational, research and governmental institutions, including schools, universities, public libraries, museums and healthcare organizations. The Internet2 Network is fluid and dynamic. Internet2 is constantly improving its state-of-the-art networking facilities and collaborating with other organizations to maximize the use of the Network throughout the United States and the world. The attached maps reflect Internet2's domestic and international connections, including those to be financed with Public Finance Authority bonds.



INTERNET2 NETWORK INFRASTRUCTURE TOPOLOGY

JUNE 2015



INTERNET2 NETWORK BY THE NUMBERS

17	JUNIPER MX960 ROUTERS SUPPORTING LAYER 3 SERVICE
34	BROCADE AND JUNIPER SWITCHES SUPPORTING LAYER 2 SERVICE
62	CUSTOM COLOCATION FACILITIES
250+	AMPLIFICATION RACKS
15,717	MILES OF NEWLY ACQUIRED DARK FIBER
8.8	TBPS OF OPTICAL CAPACITY
100	GBPS OF HYBRID LAYER 2 AND LAYER 3 CAPACITY
300+	CIENA ACTIVEFLEX 6500 NETWORK ELEMENTS
2,400	MILES PARTNERED CAPACITY WITH ZAYO COMMUNICATIONS IN SUPPORT OF THE NORTHERN TIER REGION

IN SUPPORT OF
U.S. UCAN

NETWORK PARTNERS

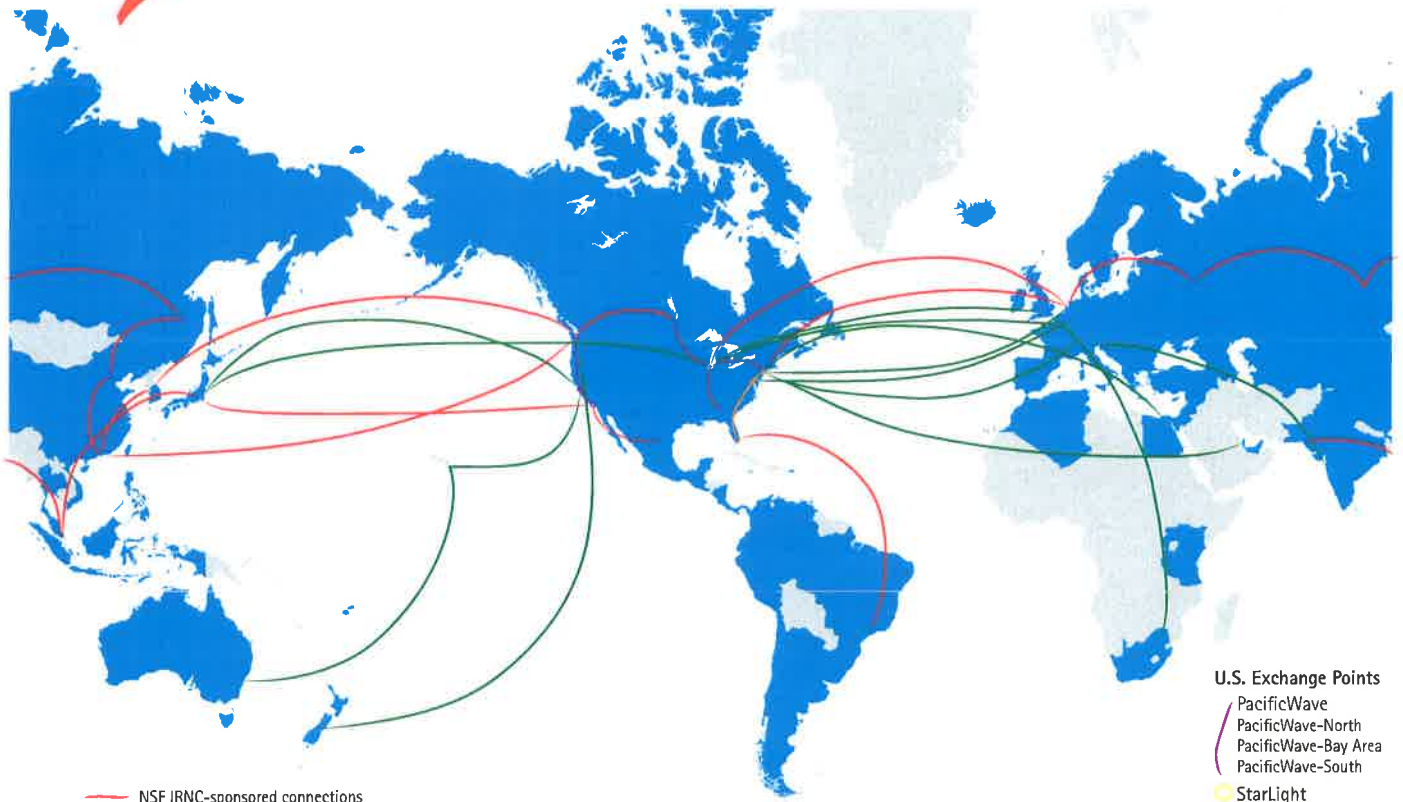
ciena

CISCO

INDIANA UNIVERSITY

infinera

JUNIPER NETWORKS



— NSF IRNC-sponsored connections
 — Other international connections

For further information regarding the international programs of Internet2, visit <http://internet2.edu/international> or contact Heather Boyles, International Relations Director, international@internet2.edu. A listing of networks reachable via the Internet2 Network is found on the back of this page.

- U.S. Exchange Points**
- PacificWave
 - PacificWave-North
 - PacificWave-Bay Area
 - PacificWave-South
 - StarLight
 - AtlanticWave
 - MANLAN
 - NGIX-East
 - AMPATH

Current Networks Reachable

AFRICA

Algeria (ARN)
Kenya (KENET)
Morocco (MARWAN)
South Africa (TENET)
Tanzania (TERNET)
Tunisia (CCK)
Uganda (RENU)

AMERICAS

Argentina (INNOVA|RED)
Brazil (RNP2/ANSP)
Canada (CAAnet 4)
Chile (REUNA)
Colombia (RENATA)
Costa Rica (CR2Net)
Ecuador (CEDIA)
El Salvador (RAICES)
Guatemala (RAGIE)
Mexico (CUDI)
Panama (RedCyT)
Peru (RAAP)
Trinidad (Univ. of the West Indies)
Uruguay (RAU2)
Venezuela (Reacciu2)

ASIA and PACIFIC

Australia (AARNET)
China (CERNET, CSTNET, NSFCNET)
Fiji (USP-SUVA)
Hong Kong (HARNET)
India (ERNET)
Indonesia (ITB)
Japan (SINET, WIDE, JGN2)
Korea (KOREN, KREONET2)
Malaysia (MYREN)
New Zealand (KAREN)
Pakistan (PERN)
Philippines (PREGINET)
Singapore (SingAREN)
Taiwan (TANet2, ASnet)
Thailand (UniNet, ThaiSARN)
Vietnam (VinaREN)

CENTRAL & SOUTHWEST ASIA

Armenia (ASNET-AM)
Azerbaijan (AzRENA)
Georgia (GRENA)
Kazakhstan (KazRENA)
Kyrgyz Republic (KRENA)
Tajikistan (TARENA)
Turkey (ULAKBIM)
Turkmenistan (TuRENA)
Uzbekistan (UzSciNet)

EUROPE

Albania (ASA/INIMA)
Andorra (Univ. of Andorra)
Austria (ACOnet)
Belarus (BASNET, UNIBEL)
Belgium (BELNET)
Bosnia-Herzegovina (BIHARNET)
Bulgaria (ISTF)
Croatia (CARNet)
Cyprus (CyNET)
Czech Republic (CESnet)
Denmark (Forskningsnettet)
Estonia (EENet)
Finland (Funet)
France (RENATER)
Germany (X-WiN)
Greece (GRNET)
Hungary (NIIF/HUNGARNET)
Iceland (RHnet)
Ireland (HEAnet)
Italy (GARR)
Latvia (LATNET)
Lithuania (LITNET)
Luxembourg (RESTENA)
Macedonia (MARNet)
Malta (UofM/RicercaNet)
Moldova (RENAM)
Montenegro (MREN)
Netherlands (SURFnet)

EUROPE cont'd

Norway (UNINETT)
Poland (PIONIER)
Portugal (FCCN)
Romania (RoEduNet)
Russian federation (RBnet, RUNNET)
Serbia (AMRES)
Slovakia (SANET)
Slovenia (ARNES)
Spain (redIRIS)
Sweden (SUNET)
Switzerland (SWITCH)
Ukraine (URAN)
United Kingdom (JANET)

MIDDLE EAST

Egypt (EUN/ENSTINET)
Israel (IUC)
Jordan (JUNET)
Palestinian Territories (Birzeit Univ./Al-Quds Open Univ.)
Qatar (Qatar FN)
Syria (HIAST)
United Arab Emirates (ANKABUT)

MULTINATIONAL NETWORKS

APAN
GEANT2
NORDUnet
redCLARA
UbuntuNet

For further information regarding the international programs of Internet2, visit <http://internet2.edu/international> or contact Heather Boyles, International Relations Director, international@internet2.edu.



Internet2®

www.internet2.edu/about

Internet2 is a member-owned advanced technology community founded by the nation's leading higher education institutions. An exceptional partnership spanning U.S. and international institutions who are leaders in the worlds of research, academia, industry and government, the Internet2 community is developing breakthrough technologies that support the most exacting applications of today—and spark the most essential innovations of tomorrow.

Focused on members' technology needs since 1996, Internet2 provides a collaborative environment for U.S. research and education (R&E) organizations to solve common technology challenges, and develop innovative solutions in support of their educational, research, and community service missions. Activating the same partnerships that produced today's Internet, our members are forging the future Internet through community, an unsurpassed innovation platform, and transformative, above-the-network services and applications.

Unparalleled community

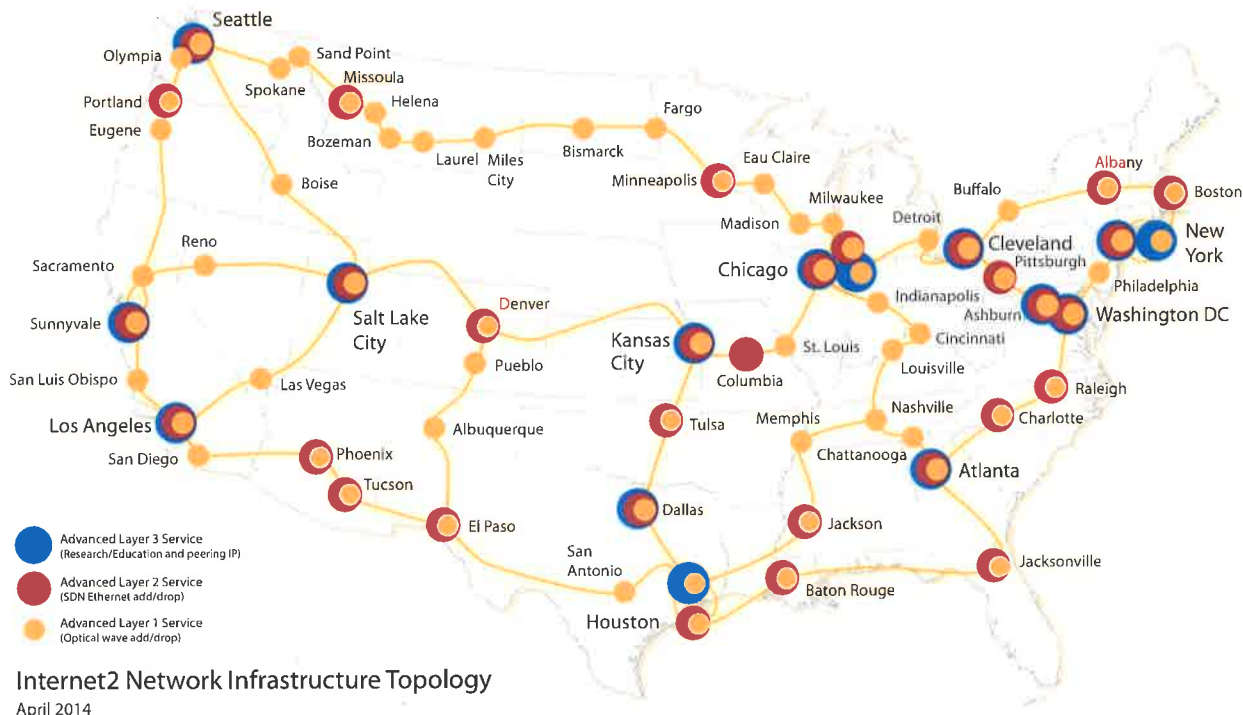
In addition to over 440 member institutions—leading universities, corporations, government research agencies and not-for-profit networking organizations—the broader Internet2 community includes over 93,000 institutions across the U.S. and international networking partners representing more than 100 countries. Thought leaders from the domains of science and academic research, arts and humanities and health sciences—as well as advanced network researchers and developers—join forces with Internet2's core staff to offer unparalleled possibilities for exploration and innovation.

Advanced innovation platform

Internet2 provides a unique set of global capabilities to members for the development of new applications and services specifically designed to meet the needs of U.S. researchers and educators—including a 100 gigabit-per-second network that not only delivers reliable production services for high-performance needs,

Internet2 Network by the numbers

- 17 Juniper MX960 routers
- 31 Brocade and Juniper switches
- 49 custom colocation facilities
- 250+ amplification racks
- 15,717 miles newly acquired dark fiber
- 2,400 miles partnered capacity with Zayo Communications
- 8.8 Tbps optical capacity
- 100 Gbps hybrid Layer 2/3 capacity
- 300+ Ciena ActiveFlex 6500 network elements



IN SUPPORT OF
U.S.UCAN

NETWORK PARTNERS

ciena

CISCO

INDIANA UNIVERSITY

infinera

JUNIPER



MEMBER LED, MEMBER FOCUSED

253 Higher Education
Members

41 Research and Education
Network Members

67 Affiliate Members

82 Industry Members

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Suite 900
Washington DC 20036
T 202.803.8995
F 202.803.8958

6001 Shellmound Street
Suite 850
Emeryville CA 94608
T 510.858.0881

but creates a powerful experimental platform for the development of new applications.

The fourth generation of the **Internet2 Network** has now been deployed, providing an unprecedented 8.8 Terabits of capacity, reaching into underserved areas of the nation. Built through a federal stimulus grant from the National Telecommunications and Information Administration's Broadband Technology Opportunities Program (BTOP), the infrastructure uses standards-based technologies and protocols, supports a wide range of IP and optical services available today—from leading-edge IPv4, IPv6 and multicasting to static and dynamic point-to-point circuits—and is already stimulating a new generation of innovative capabilities.

Internet2 Advanced Layer 2 Service allows members to build Layer 2 circuits between endpoints on the Internet2 Network and beyond, providing users with cost-effective, highly reliable solutions—whether it's the “big data” needs of global science researchers, or allowing innovators to program *the network itself* through software-defined networking (SDN) technologies such as OpenFlow. All this reliability and flexibility is now available *in one innovation platform*. See internet2.edu/network for more.

Transforming service models

Building on this world class foundation, the Internet2 community has tapped its considerable forces to craft new service-delivery mechanisms that promise to transform the way research and education does business. **Internet2 NET+** cloud solutions supporting every mission area and function are now evolving—with some already a reality. From federated identification management and security services to cloud offerings for storage and collaboration, electronic textbook delivery and computing resources... The result? Educators and researchers can collaborate in unprecedented ways, education costs and red tape can be reduced, new markets can be developed—and society's most intractable problems can be solved more rapidly. Visit internet2.edu/netplus for more information.

Enabling tomorrow's discoveries

Back to the people side of the equation, member community-based working entities are spreading these technologies around where they can do some good. In very real ways, the **K20 Initiative** helps to bring the new, global schoolhouse to a street address near you. Comprising 39 state education networks, teachers and innovators team with Internet2 members to extend advanced networking technologies right into local libraries, museums and classrooms. Over 93,000 community anchor institutions (CAIs) are already connected, and—as mandated by the BTOP grant—the Internet2 Network will support connectivity for *all* of the approximately 200,000 U.S. CAIs, enabling them to provide citizens across the nation with telemedicine, distance learning and other important applications, and creating new economic opportunities. The grant proposal calls for (but does not fund) the creation of **U.S. Unified Community Anchor Network** (U.S. UCAN), an organization that builds on the R&E network model to serve the expanded number of CAIs. Visit usucan.org to learn more.

In similar ways, the **Science and Engineering, Health Sciences, and Arts and Humanities Initiatives** are facilitating the use of advanced networking applications in support of distributed lab environments, remote access to rare scientific instruments, and distributed, large-scale computation and data access; clinical practice, telemedicine, medical and biological research, health education and awareness; and long-distance, collaborative live performances, master classes, remote auditions, and interactive performing arts education and media events. Visit internet2.edu/communities for more details.

Discover your future

In all these communities, traditional barriers to the sharing of ideas and expertise are being broken down through the innovative use of advanced technologies. But as expansive as these activities and accomplishments are, there may still be something missing. Is it *you*? Visit internet2.edu/membership today and find out how you can connect your community to the future.

Internet2

[1]

ABOUT US



The Internet2 Community: Enabling the Future

Internet2 is an exceptional community of U.S. and international leaders in research, academia, industry and government who create and collaborate via innovative technologies. Together, we accelerate research discovery, advance national and global education, and improve the delivery of public services. Our community touches nearly every major innovation that defines our modern digital lives—and continues to define “what’s next.”

Our Unparalleled Community

Internet2 comprises*:

282 U.S. institutions of [higher education](#)
[/communities-groups/members/higher-education/](#)

86 [leading corporations](#) [/communities-](#)
[groups/members/industry/](#)

66 [affiliate members](#) [/communities-](#)
[groups/members/affiliate/](#), including
government agencies

42 [regional and state education](#)
[networks](#) [/communities-](#)
[groups/members/research-education-networks/](#)



news

[Cloud 101
Workshop at
EDUCAUSE](#)

[Recap](#)
[/blogs/detail/9601](#)

*(Nov 10,
2015)*

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[Women in](#)
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[Spotlighted at](#)
[Internet2 2015](#)
[Technology](#)
[Exchange](#)

[/blogs/detail/9298](#)
(Oct 21, 2015)

[Showcasing](#)
[the Internet2](#)
[Community at](#)
[2015](#)
[EDUCAUSE](#)
[Annual](#)
[Conference](#)

More than 65 [national research and education networking partners](#) [\[/vision-initiatives/partnerships/international-partnerships/\]](#) representing over 100 countries

Internet2 is a not-for-profit organization [governed](#) [\[/vision-initiatives/governance/\]](#) by an executive [Board of Trustees](#) [\[/vision-initiatives/governance/board-trustees/\]](#) representing our diverse membership. [Program Advisory Groups](#) [\[/vision-initiatives/governance/program-advisory-groups/\]](#), also made up of community leaders, offer critical feedback and help set our direction.

Our Commitment to Advancing Research and Education

The commercial Internet we know today was shaped by the vision and work of the people and organizations in the Internet2 community—collaborating within research and education (R&E) environments that removed the barriers to discovery. The technologies developed and leveraged by this community not only advance R&E, but accelerate discoveries across the globe and have lasting impacts on the quality of human life. From the makeup of the universe, to cancer cures, to climate change and beyond, their efforts influence commerce, science, sports, education, news and medicine.

Our Collaborative Power

Innovation takes place when ideas are liberated to create practical, far-reaching solutions to the problems of society. Our community is laying the foundation for entirely new ideas: equipping the brightest people in the world with the most advanced technology in the world. If their previous track record is any indication, the future they create will be bold and brilliant.

**As of April, 2015*

[\[/news/detail/9288/\]](#)
(Oct 20, 2015)

[Connect with the Internet2 Community at EDUCAUSE](#)

[\[/blogs/detail/9291/\]](#)
(Oct 19, 2015)

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events

Internet2

PRODUCTS & SERVICES



Accelerating Research Discoveries

Our portfolio of advanced network services and enabling applications gives researchers and educators new opportunities to collaborate seamlessly with peers to define, discover, and deploy breakthroughs across all areas of learning—from science to the arts, engineering to education. Accessing our products and services, member institutions accelerate research discoveries, support university business, and are poised to deliver research and education services in completely new ways.

[Advanced Networking](#) [\[/products-services/advanced-networking/\]](#)

Access the most advanced 100 gigabit networking technologies and solutions to optimize research and education collaboration.

[Cloud Services & Applications](#) [\[/cloud-services/\]](#)

We provide an integrated portfolio of tailored cloud services blended from commercial and community offerings and dynamically delivered through the infrastructure facilities of the Internet2 Network and the federated

news

[Clemson Researchers and IT Scientists Team Up to Tackle Big Data](#)

[\[http://newsstand.clemson.edu/researchers-and-it-scientists-team-up-to-tackle-big-data/\]](http://newsstand.clemson.edu/researchers-and-it-scientists-team-up-to-tackle-big-data/) (Oct 29, 2015)

[SingAREN Hosts Networking Event](#)

[\[http://www.singaren.net.sg\]](http://www.singaren.net.sg) (Oct 23, 2015)

[New perfSONAR Updates Showcased at Internet2 2015 Technology Exchange](#)

[\[/news/detail/8945/\]](#) (Oct 02, 2015)

authentication and authorization services available through Internet2's InCommon (required for participation).

Trust, Identity & Middleware

</products-services/trust-identity-middleware/>

Our full range of enabling middleware tools—including InCommon, Shibboleth, Grouper and CManage—help members securely and easily manage their identity and access management challenges.

Performance & Analytics

</products-services/performance-analytics/>

Internet2 has the tools to help engineers quickly identify service problems across national and international networks. Optimize your network investment with perfSONAR performance tools; the Deepfield Analytics Service, a new cloud intelligence solution that allows Internet2 higher education members to track, model and visualize their use of the Internet2 Network; and the Performance Assurance Service, giving members visibility into network metrics and providing a framework for the operational monitoring of network services.

Support </products-services/support/>

Need support for an Internet2 product or service? Find overall support info for our product and service portfolio here. Note that contact and support details may also be found as part of individual service documentation.

[MORE /NEWS/BY_TAGS/BLOG%2CNEWS%2CNEWS-FACEBOOK%2CNEWS-LINKEDIN%2CNEWS-MEDIA-CLIPS%2CNEWS-PINTEREST%2CNEWS-PRESS-RELEASE%2CNEWS-TWEET/PRODUCTS-SERVICES%2CCUSTOM-NETWORKS%2CLAYER-3-SERVICES%2CLAYER-2-SERVICES%2CLAYER-1-SERVICES%2CPERFORMANCE-MONITORING%2CTRUST-IDENTITY-MIDDLEWARE%2CINCOMMON-FEDERATION%2CINCOMMON-CERTIFICATE-SERVICE%2CINCOMMON-ASSURANCE-PROGRAM%2CSHIBBOLETH%2CGROUPER%2CCOMANAGE%2CADVANCED-NETWORK-SERVICES%2CINCOMMON-MULTIFACTOR-AUTHENTICATION%2CCLOUD-SERVICES-APPLICATIONS/](#)

groups

CManage Project

</communities-groups/middleware/comanage-project/>

Emerging National Research and Education Networks

</communities-groups/international-community/emerging-national-research-education-networks/>

Federation Interoperability Working Group

</communities-groups/trust-identity/federation-interoperability-working-group/>

[MORE /COMMUNITIES-GROUPS/GROUPS/ALL/ALL/ALL/ALL/](#)

case studies

[Universities Use NET+ Box To Drive Collaboration and Innovation](#) [/research-solutions/case-studies/universities-use-netplus-box-to-drive-collaboration-innovation/]

[Morehouse College Leverages Seamless Integration for Cloud Storage & Collaboration](#) [/research-solutions/case-studies/morehouse-college-leverages-seamless-integration-cloud-storage-collaboration/]

[Connecting Research and Learning in the Cloud](#) [/research-solutions/case-studies/connecting-research-learning-cloud/]

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Internet2

POLICY ISSUES



Unwavering Advocacy

Internet2's Government Relations program strives to create an open forum for dialogue between the higher education technology community and the federal government to encourage innovation and collaboration, and to address emerging policy issues of importance to the Internet2 community.

This program serves our community on a variety of strategic levels: defining public policy projects and priorities; developing those policies; drafting advocacy materials; analyzing rules, legislation, and other matters that impact Internet2 and our members; and engaging in external advocacy.

For more information, please email government@internet2.edu [<mailto:government@internet2.edu>].

filings

[Internet2 comments to RUS and NTIA on the Broadband Opportunity Council \(PDF\)](#)

[\[/media/medialibrary/2015/06/1-BOC-Comments-6-10-15-FINAL-Amended.pdf\]](#)

[Internet2 comments to NTIA on the Arctic Notice of Inquiry \(PDF\)](#)

[\[/media/medialibrary/2014/12/1-NTIA-Arctic-NOI-Comments-11-3-14.pdf\]](#)

[Internet2 letter to WI legislators supporting U of Wisconsin system \(PDF\)](#)

[\[/media/medialibrary/2013/10/13.pdf\]](#)

[Internet2 public safety comments to NTIA \(PDF\)](#)

[\[/media/medialibrary/2013/10/1-of-Internet2-to-NTIA-20121109-FINAL.pdf\]](#)

[Internet2 USF reform reply](#)

[comments to FCC
\(PDF\)](#)

[\[/media/medialibrary/2013/10/1
12.pdf\]](#)

[Internet2 E-rate
NPRM Comments,
September 2013
\(PDF\)](#)

[\[/media/medialibrary/2014/05/2
13.pdf\]](#)

[Internet2 E-rate
NPRM Reply
Comments, April
2014 \(PDF\)](#)

[\[/media/medialibrary/2014/05/2
14_FINAL.pdf\]](#)

news

[Broadband
Opportunity
Council
Report and
Recommendations](#)

[\[/blogs/detail/8837\]](#)

*(Sep 22,
2015)*

[Internet2 Files
Comments to
Inform the
Direction of
the
Broadband
Opportunity
Council](#)

[\[/blogs/detail/8667\]](#)

(Jun 17, 2015)

[Steering clear
of
'sneakernet'
at big-data](#)

scale

[\[http://gcn.com/articles/2015/05/27/sneakernet.aspx\]](http://gcn.com/articles/2015/05/27/sneakernet.aspx)

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(May 27,
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PARTNERSHIPS



Unconstrained Collaboration

Innovation comes from collaboration. Not just among our members but through strategic partnerships with government, community and industry organizations. These partnerships help to ensure the advancement of the research, education and service missions for all our members.

[Industry Partnerships](#) [\[/vision-initiatives/partnerships/industry-partnerships/\]](#)

Internet2 membership opens the door to broad, future-facing collaboration with a highly targeted community. Internet2 partners with prominent corporations across the nation to:

- Build the Internet2 Network as well as exchange points and interconnections that allow members to fulfill their global research and education missions

- Expedite the delivery of networking applications and cloud services to college campuses nationwide and address research, big data and innovation challenges

news

[Internet2 and India's National Knowledge Network Link Partnership](#)

[\[/news/detail/8659/\]](#)

(Jun 10, 2015)

[Global Focus at the 2015 Internet2 Global Summit](#)

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[Enlighten Your Research Global 2015: Advanced Networking for International Research](#)

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(May 06, 2015)

Sponsor community events and programs where the collaboration of the brightest minds will help define the future of research and education

Scattered across the entire Internet2 ecosystem is a community of 2,500–3,500 of the most extraordinary network engineers, application developers and technology architects in the world. No commercial company on the face of the earth can drive the level of innovation that this community can drive. Better solutions lie in the power of community.

[International Partnerships](#)

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Through mutual agreements with similar organizations around the world, Internet2 is establishing ties that will help ensure the continued global interoperability of advanced networking, and enable collaboration between U.S. researchers, faculty, students and their overseas counterparts.

[Network Partnerships /vision-initiatives/partnerships/network-partnerships/](#)

Our network partnerships include strong relationships with the **state and regional** research and education (R&E) networks that provide cyberinfrastructure capacity and capabilities to our members, creating a foundation for innovation. Close, formal collaborations are also maintained with **ESnet**, the high-speed network serving thousands of Department of Energy scientists and collaborators worldwide, and NOAA's high-capacity research network, **NWave**.

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