

Policy Package #110

Technical Staffing Component -- 27 fte

Purpose:

To maintain core technical competence in key disciplines/functions to ensure quality delivery of products and services.

Background:

In an effort to be more responsive to local needs and have greater synergy among business lines within a Region, Highway Division decentralized its project development functions and created Region Tech Centers.

This reorganization was carried out without the addition of new staff. Normally organizational decentralizations utilize additional staff, assuming all business metrics remain equal.

ODOT is THE state agency charged with providing a statewide transportation system in Oregon. To ensure successful development, construction, and operation of this transportation system, ODOT must have staff with sufficient technical knowledge and competency to perform work at acceptable quality levels. Technical competency requires work experience. ODOT has sought to utilize the private sector to the fullest extent possible. However, technically competent staff are still required to ensure the appropriate selection, support and oversight of private sector consultants and contractors.

The reorganization created inherent risk that discipline expertise would diminish over time due to the minimal numbers of FTE in some disciplines in the regions (one-deep in some locations). The small numbers created potentials for less cross training, less mentoring and less synergy within a discipline within a region.

As a part of the recent Project Delivery Review, the Technical Leadership Team (TLT) reviewed the staffing of the region Tech Centers; identifying the required core disciplines and the minimum FTE necessary in each discipline to ensure viability and sustainability.

Definitions:

Viability is defined as the minimum number of senior staff required to ensure the delivery of quality products -- regardless of program size. ODOT will use private sector consultants to augment design staff -- but again a minimum number of technically competent FTE is necessary to manage and oversee the work of consultants.

Sustainability is defined as the minimum number of junior staff in key disciplines who are being trained to fill senior positions upon vacancy to ensure no disruption in program delivery.

TLT identified the following as core disciplines needing to be staffed in each Tech Center: **Bridge, Geotech, Traffic, Roadway, Environmental, Survey, Hydraulics and Right of Way Acquisition.**

TLT also identified competencies outside the core disciplines that are needed by some Regions; or which the Agency may need to establish either centrally or in the future. These include: Preliminary Road Design, Access Management, Traffic Operations, Geotechnical Exploration, Landscape Design, Erosion Control Design and MS Project Support. TLT also identified gaps in sustainable technical competence in Technical Services Branch.

Attachment A is a table from the ODOT 2007 Project Delivery Report which shows the minimum discipline staffing levels and resulting core structure expected for each Tech Center.

Attachment B is a table showing the minimum discipline staffing level gaps for each Region, along with the planned approach to address each gap. Including where additional positions have been requested through POP.#110.

Attachment C is the organization chart showing all of the 27 positions being requested in each Region and TS to improve the sustainability of core technical competence.

Benefits to ACEC & AGC:

External stakeholders/partners and customers will benefit from ODOT maintaining core competence on several levels:

- 1) Contractual interactions,
- 2) In the development and consistent use of technical support products,
- 3) Introduction and further development of new technologies, and
- 4) High quality workshops and training on department priority directions and new technologies

The use of design consultants requires the development of RFQs and RFPs, the writing and negotiation of contracts, the writing and negotiation of scopes of work, overseeing and approving of work products. Competence in the discipline is necessary to ensure that the appropriate product and quality is being requested and received. This is ODOT's public responsibility, but it is also to the benefit of the Consultant as they are interacting with someone competent in their own discipline. This also benefits AGC as high quality oversight of consultants helps with assuring greater consistency and quality of contract plans and specifications used by AGC.

Discipline support products, such as; manuals, technical bulletins, standard drawings, training are written and maintained by senior discipline staff for the benefit of training junior staff and maintaining consistent and efficient practices statewide. These products are also made available to Consultants, Contractors and local agencies. Sustaining a competent technical core staff ensures that these products are continually being developed and updated in accordance with the state of practice.

Maintaining a technically competent workforce also provides more opportunity for effective professional collaboration and cooperation between ODOT and ACEC and

AGC in the development of tools, processes and policies which improve the delivery of quality products and services.

Maintaining a technically competent workforce in Technical Services Branch provides opportunities for specialty staff to develop new technologies for implementation. It also assists industry as they propose new and more efficient means and higher quality materials that ODOT will be able to investigate and support their introduction into practice.

Technical Services Branch needs a sustained level of technical competence to develop and sponsor high quality workshops and training in new means and methods to provide a forum for industry and ODOT to jointly improve transportation design and construction practices.

Attachment A

(2007 ODOT Project Delivery Review Page 41)

Expected Minimum Discipline Levels

Primary Discipline	Resulting Core Structure	
	Minimum # of Senior Level Positions (Viability)	Minimum # of Junior Level Positions (Sustainability)
Roadway		
Roadway Design	1,PE	2
Roadway/General Drafting	1	1
Utilities Coordination	1	1
Specifications/Estimating	1	0
Traffic		
Traffic Control Design	1	1
Sign Design	1	0
Signal Design	1	0
Traffic Analysis	1	1
Traffic Investigation	1	0
Traffic Technician/Counter	1	0
Right of Way		
Right of Way	2	3
Survey	1,PLS	4
Descriptions	1,PLS	1
Environmental		
Env. Project Management	1	0
Biology	1	0
Wetlands	1	0
Environmental Coordination (RECs)	2	0
Environmental Permit Coordination	1	0
Bridge		
Bridge Design	1,PE	1
Bridge Drafting	1	0
Geo/Hydro		
Geotechnical Design	1,PE	1
Engineering Geology	1,CEG	1,PG
Hydraulics Engineering	1,PE	0
Hazmat (soils and groundwater)	1,PG	0

Attachment B

Minimum Discipline Level Gaps – By Region (Actual 2008-11)

Note: **Yellow Highlights** indicate positions outside core disciplines, but with “one-deep” concerns relevant to individual regions.

Region/Gap Area	Gap Level	Mitigation Approach	POP Request	ACEC/AGC Benefit
Region 5				
Utilities Coordination	1 junior-level position	Cross-training roadway designer and RW Agent		
Traffic Control Design	1 junior-level position	Cross-training traffic staff		
Traffic Analysis	1 junior-level position	Cross-training traffic staff		
Right-of-Way	1 senior-level position	RW Manager supplements staff as needed	Sr RW Agent RW2	
Environmental Permit Coordination	1 senior-level position	Individuals track and coordinate specialties	Permit Coordinator ES2	
Geotechnical Design	1 junior-level position	Agreement needed with other Region or TS	Engineering Geologist PE1	
Region 4				
Roadway/General Drafting	1 junior-level position	Have two senior level positions		
Utilities Coordination	1 junior-level position	Use construction and TC staff to fill need		
Traffic Control Design	1 junior-level position	Construction and roadway staff provide back-up	Traffic Investigation AE1	
Traffic Analysis	1 junior-level position	Traffic OPS staff provide back-up		
Sign Design	1 senior-level position	Need Region or TS agreement, consult out possible		
Survey	???	Survey tech position to return, K-Falls PM crew assists with District 11	Survey Tech ES3	
Traffic Investigation	1 senior-level position	Traffic OPS staff provide back-up	Traffic Investigation AE1	
Environmental Permit Coordination	1 senior-level position	Combine with biology and water quality functions		
Bridge Design	1 senior-level position	Current work load does not justify full-time position. Need agreement with TS	Structural Designer PE1	
Bridge Design	1 junior-level position		Structural Designer AE2	
Preliminary Design	This position while not on the core list is on the additional Regional needs list and the Region does not currently have a position in this discipline.	Agreement needed with other Region or TS	Preliminary Engineer PE1	
Tech Center Manager		Combined Tech Center Mgr with Area Mgr Position	Tech Center Manager PEMF	

Region 3				
Traffic Control Design	1 junior-level position	Have cross-trained roadway designers	Traffic Designer AE1	
Hydraulic Design	This position while not on the core list, is on the additional Regional needs list and the Region is one-deep in this position		Hydraulic Designer AE1	
Wetlands	This position while not on the core list, is on the additional Regional needs list and the Region is one-deep in this position		Wetlands Specialist EPC2	
Region 2				
No Gaps		Have cross-trained staff to meet peak workloads		
Traffic Analysis	While the Region does have 2 positions in this discipline, due to the volume of work, they can improve product delivery by having an additional position.	Will facilitate cross-training	Traffic Analyst AE2	
Region 1				
Sign Design	1 senior-level position	Assign one PE-1 position from Traffic Control Design (TCD) when an AE-1 position becomes available to fill TCD sustainable structure	Sign Designer AE2	
Traffic Control Design	1 junior-level position	Short-term agreements with other Regions and TS. Add one AE-1 position to Traffic Control Design sustainable core structure when positions become available	TCP Designer AE2	
Signal Design	This position while not on the core list, is on the additional Regional needs list and the Region is one-deep in this position		Signal Designer AE2	

TS POPs Requests

TS Section	POPs Request	ACEC/AGC Benefit
Bridge	R3 Bridge Inspector AE1	A second position mitigates working alone risk issues and will facilitate in the continued update and implementation of statewide inspection procedures, especially in the wake of the MN bridge collapse and heightened national focus and federal requirements.
Bridge	Electrical Engineer PE1	This is a specialty area that has worked in collaboration with ACEC and AGC in the review and development of new technology to facilitate bridge design and construction (accelerated bridge construction, movable bridges, historic bridge preservation, ...) The addition of an additional position will provide succession planning for sustaining the specialty as well as broadening and accelerating the ability of the agency to review
Bridge	Vertical Clearance Management System Mgr. AE2	Oversee the gathering of bridge vertical clearances via laser, the maintenance of the data and the dissemination of data to MCTD for permitting of the over height trucks. More accurate up to date data, will facilitate consultants in the development of projects to meet vertical clearance design requirements and for AGC in meeting mobility requirements during construction.
Traffic – Roadway	Illumination Designer AE2	Continuity of and communication of standards. Improved project and policy consultation.
Geo-Environmental	NEPA OPA4	Would allow the agency to be much more responsive to rapidly changing regulatory climate under NEPA and provide the agency with the ability to coordinate appropriately with FHWA and our regulatory partners in the development and implementation of new agency policies, programmatic agreements and streamlining initiatives to shorten our project development and delivery timelines. This position would also improve the ability of the agency to provide timely review and quality control for major NEPA documents (EIS and EA level) and improved oversight of contract management for NEPA services.
Geo-Environmental	Air Quality CES2	Improve Agency ability to provide timely technical assistance, review and quality control to our consulting partners for Air Quality modeling, analysis and technical reports and would improve our ability to appropriately coordinate with FHWA, DEQ, EPA local agencies and consulting partners in responding to imminent changes to air quality regulatory law and standards, including green house gas and mobile source air toxics emissions analysis, modeling and reporting and development of statewide climate change/global warming strategies. The position will improve the agency's ability to effectively manage the \$14M annual CMAQ program, provide assistance to CMAQ affected areas in the project selection, development and application process for CMAQ funding and improve our ability to provide timely air quality conformity reviews.
Geo-Environmental	Roadside Development CES3	Will provide ODOT the ability to develop and keep updated standard specifications, details, drawings, drafting standards design criteria, qualified products review, scopes-of-work and bid items related to seeding, planting and irrigation. The position would also provide leadership and coordination of training and improve consistency of design, project delivery and inspection of roadside development project elements. Currently there is no position in ODOT responsible for these duties.
R/W	DOJ Liaison ROW Agent 2	Position would assist in condemnation process. In the event the current 1-deep position is vacant, or the person is sick or on vacation, possession of R/W may not be secured on-time and projects may be put at risk. Including projects being completed by consultants.
R/W	Relocation Agent ROW Agent 2	Currently only have one person available to answer questions, provide direction and advice, give approvals and work with FHWA and DOJ to resolve the most complex relocation issues. Consultants rely on these

		services as much as internal staff. If this position is vacant for any length of time, projects can be at risk.
Access Management	Access Management Appeals Coordinator CompSpec2	ODOT could provide a quicker response to appeals of access management decisions that threaten to delay project delivery. Early resolution of appeal issues can reduce project costs and political problems. The additional staff would also allow more training to be developed and delivered for consultants and local governments to better understand ODOT rules, policies and procedures for access management in project development.

Attachment C:

**POPs Package
One Deep Position Requests**

Organizational Chart



POPS org chart one
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