

## Recruitment and Retention of Teachers in Tennessee's Achievement School District and iZone Schools

A Policy Brief on Driving Improvement in Low Performing Schools

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About this Brief

This policy brief continues the Tennessee Education Research Alliance examination of Tennessee's efforts to turn around its lowest performing schools. The brief reviews the extent to which schools engaged in turnaround models, including the Achievement School District and Innovation Zones, have been able to recruit and retain highly effective teachers. It follows previous work which looked at the initial impacts of Tennessee's turnaround approaches on student achievement, mobility, and teacher retention, as well as stakeholder perceptions.

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## Introduction

Since 2012-13, Tennessee has been engaged in one of the nation's boldest experiments to turnaround its lowest achieving schools. The state identified its lowest achieving five percent of schools, known as *priority schools*, and placed each in one of four interventions: (1) the Achievement School District (ASD), (2) innovation zones (iZone) in local school districts, (3) a federal School Improvement Grant model, or (4) LEA-led school improvement planning processes (ESEA Flexibility Request, 2012, p. 54).

Among these possible interventions, none has been bolder and, consequently, more controversial than the ASD - a new state-run school district that removes schools from their home districts and either directly manages these schools or contracts management responsibilities to external operators, mainly charter management organizations. The original goal of the ASD was to move the academic performance of schools taken over from the bottom five percent of schools to the top performing quarter of schools in Tennessee within five years. Once a school was selected for the ASD, it would remain in the ASD for at least five years. The school would return to the home district conditional on the performance of both the school and the home district (ESEA Flexibility Request, 2012). The ASD's overarching strategy to improve student outcomes was to provide schools with greater autonomy including the ability to hire talented education professionals, especially teachers (Race to the Top Application for Initial Funding, 2010).

In 2012-13, the ASD took over its first cohort of six schools with three schools managed by external operators and three managed directly by the ASD, which are referred to as Achievement Schools, as shown in Table 1. In 2013-14, the ASD added a second cohort of 11 schools, eight run by external operators and three Achievement schools run directly by the ASD. In the 2014-15 school year, a third cohort of eight schools was added, all managed by external operators, while two schools opened in the 2013-14 school year were merged with other ASD schools.

Innovation Zone, or iZone schools, were managed in separate units within their local school district but received additional funding and were granted autonomy and flexibility similar to the ASD. Several districts throughout

## **Key Findings**

- The turnover rate for ASD schools averaged 63 percent and the turnover rate for all Tennessee iZone schools averaged 37 percent from 2012-13 through 2014-15. Over the first three years of operation for their first cohorts, the turnover rate was 57 percent per year for ASD and 35 percent for iZone.
- 2. The turnover rates for the first year of either turnaround reform were expected to be high due to the requirement that teachers in turnaround schools reapply for their positions, and some ASD cohorts did replace all of the teachers in the first year. For the two cohorts of schools for which we have data for their second year of operation in the ASD, the turnover rates were 50 percent and 49 percent, respectively. For the two cohorts of the iZone schools for which we similarly have data for their second year of operation, their turnover rates were lower at 40 and 23 percent, respectively.
- Overall, both ASD and iZone schools recruited more highly effective teachers when compared with other priority schools in Tennessee and all non-priority Tennessee schools.
- 4. The iZone schools had large gains in teacher effectiveness through teacher replacement, gaining 0.59 average TVAAS score points from incoming versus moving and leaving teachers. ASD schools also gained an average of 0.38 TVAAS score points. Tennessee's other priority schools averaged a gain of 0.11 TVAAS points.
- The iZone schools have retained and recruited highly effective teachers as well as developed teachers to the highest level of effectiveness in the state's evaluation system.

Year	Total Priority	Non-iZone, Non-ASD Priority	iZone	ASD Schools by Management			
				Achievement	External Operator	Total	
2012-13	82	65	11	3	3	6	
2013-14	84 <sup>1</sup>	45	22	6	11	17	
2014-15	77 <sup>2</sup>	28	26	5	18	23	

#### Table 1. Number of Schools by Reform Approach

Tennessee have adopted iZones including Memphis (Shelby County Schools), Metropolitan Nashville Public Schools, Chattanooga (Hamilton County Schools), and more recently, Knoxville (Knox County Schools). The Memphis iZone is the largest in the state. Beginning with seven schools in 2012-13, the Memphis iZone added a second cohort of six schools in 2013-14 and a third cohort of four schools in 2014-15.

Both the ASD and iZones have continued to expand in more recent years and the list of Priority Schools has been updated by the Tennessee Department of Education. In this research brief, when we discuss iZone schools, we refer to the Memphis, Nashville, and Chattanooga iZones and in any discussion of the Memphis iZone, we will explicitly use this label.

In a previous research brief, we found mixed effects on student achievement across the reforms with overall positive but small effects for Priority Schools as a whole. We found moderate to large positive effects for iZone schools. The effects for ASD schools were no better or worse than Priority Schools that did not undergo turnaround with some positive and negative effects depending on subject and whether managed by external operators or by the ASD.

In this current research brief, we investigate teacher mobility and effectiveness in ASD and iZone schools as

a possible contributor to the effects found in our previous report. We examine teacher recruitment, retention, and development with a specific focus on the mobility of highly effective teachers in both ASD and iZone schools.

### Data

To examine the recruitment and retention of teachers in both the ASD and iZone schools, we utilized a database provided by the Tennessee Department of Education and compiled by the Tennessee Education Research Alliance. The database contains de-identified data on each teacher in Tennessee including his/her school of employment, education level, certification, experience, salary, and valueadded scores. Value-added scores are estimates of the amount that teachers add to their students' test scores as measured by statewide assessments of achievement and are provided by the Tennessee Value-Added Assessment System (TVAAS), a product of the SAS Institute<sup>™</sup>. For this study, we utilized data on all teachers in Priority Schools from the 2010-11 through 2014-15 school years.

## The Importance of Teachers to Tennessee's Turnaround Approach

Tennessee's First to the Top proposal set out a bold, but previously untested, approach for improving student performance in the state's lowest performing schools: the schools would be removed from their districts and restarted under different management. In early planning for the ASD, the state decided that ASD schools could be managed either as Achievement Schools or indirectly by external operators. In either case, when schools were under the auspices of the ASD, the staff in these schools had to reapply for their teaching positions or pursue employment elsewhere. The selection of teachers for ASD schools is an important ingredient of the theory of action for the ASD to

<sup>&</sup>lt;sup>1</sup> The increase in the total number of Priority schools from 2012-13 to 2013-14 comes from the addition of four new ASD schools, the splitting of one school into two separate schools by the ASD, and the closure of three Priority schools.

<sup>&</sup>lt;sup>2</sup> The decrease in the total number of Priority schools from 2013-14 to 2014-15 comes from the addition of two new ASD schools, creation of a second school at a former school the ASD took over in 2012-13, merging of two ASD schools into other ASD schools, and closure of eight other Priority schools.

improve the performance of their schools. Teachers are similarly important to the iZone approach. In their first year, all schools in the Memphis iZone experienced a change in staffing, with no more than 40% of the teachers remaining in any one school. Incoming iZone teachers were required to have earned one of the top two ratings in the state's teacher evaluation system and received substantial signing bonuses to commit to three years working in the iZone. Below, we first examine changes in teachers' pay designed to recruit and retain high quality teachers and then examine patterns in the data over time.

### Teacher Pay for iZone Schools

An obvious strategy to recruit and retain teachers is through increased pay. In our original analysis, we observed positive effects for iZone schools. Therefore, we first examine the change in pay in iZone schools relative to Memphis schools, which is where the bulk of the state's low performing schools are located, including ASD and iZone schools.<sup>3,4</sup> In 2012-13, the state made available to all districts with bottom five percent schools a retention bonus of \$5,000 for teachers that were rated level 5 on the state's educator evaluation system. Every Priority School in Tennessee, including all ASD and iZone schools, was eligible for the program. Prior research suggests that these bonuses were effective in retaining these high performing teachers in priority schools (Springer, Rodriguez & Swain 2014). As a part of the Memphis iZone, teachers and other school personnel were eligible to receive signing bonuses, retention bonuses and performance bonuses at the individual and school levels.

We found that while the rest of the district teachers in Memphis had an average five percent increase in pay in the first year schools operated as iZone schools, teachers who stayed in or transferred into an iZone school received, on average, a 12 percent and 18 percent increase in pay, respectively. Additional pay in the Memphis iZone may have provided those schools with an advantage in attracting and retaining higher performing and more experienced teachers.

### Mobility of ASD and iZone Teachers

Recent research has shown that a stable workforce improves student test scores and creates an environment in which

teachers collaborate and improve in terms of increasing their value-added scores and other valuable outcomes (Ronfeldt, Loeb & Wyckoff, 2013; Ronfeldt 2012, 2015). While the differences in pay would seem to create an advantage for the iZone schools in terms of maintaining a stable workforce, teachers may have chosen to move into and stay in ASD schools that offered autonomy and the opportunity to participate in the development of a new school.

In Figure 1, we show that for the three cohorts of ASD schools across all three years of operation, the turnover rate for ASD schools averaged 63 percent and the turnover rate for all Tennessee iZone schools averaged 37 percent. We can also focus strictly on the first cohorts of the ASD and iZone schools as these cohorts have been in operation the longest. In this case, the average annual turnover rate for first cohort of ASD schools across all three years is 57 percent per year, while in the first cohort of iZone schools, the average annual turnover rate is 35 percent. This is in contrast to other Priority Schools in Tennessee which averaged a 30 percent turnover rate during this period, indicating that the workforce in ASD schools experienced considerable churn during their first three years of operation.

However, high levels of turnover rates were expected in the first year for both turnaround reforms due to the requirement that teachers reapply for their positions. Therefore, we examine the turnover rates among the cohorts of ASD and iZone schools by year.

For the years in which schools transitioned into ASD, ASD Cohort 1 had a turnover rate of 66 percent, ASD Cohort 2 had a 95 percent turnover rate, and ASD Cohort 3 had a 69 percent turnover rate. In their first year of operation, iZone Cohorts 1-3 had turnover rates of 41, 53, and 48 percent, respectively. In the first two ASD cohorts for which we have data from their second year, the rates were 50 percent and 49 percent, respectively. In their second year of operation, iZone Cohorts 1 and 2 had turnover rates of 40 and 23 percent, respectively. In their second year of operation when the teacher workforce would have been expected to stabilize, turnover rates in the iZone schools have been much lower than in ASD schools.

<sup>&</sup>lt;sup>3</sup> Although Memphis schools are actually in the Shelby County Schools district, we will label them as Memphis schools in this report.

<sup>&</sup>lt;sup>4</sup> Currently, we have limited data on salaries for teachers in ASD schools.

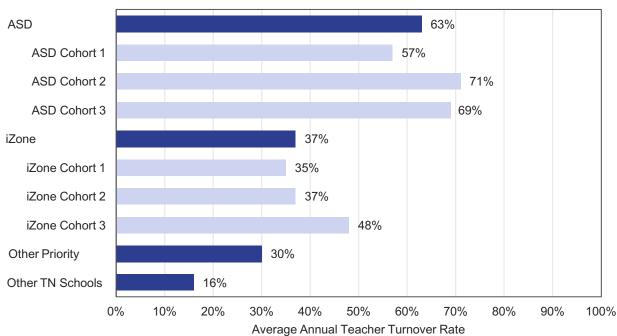


Figure 1. Average Annual Teacher Turnover Rates in ASD, iZone, and Other Priority Schools: 2012-13 to 2014-15

Overall, these findings indicate that iZone schools were more stable in terms of teacher turnover, which other research indicates may increase student achievement. However, it is important to delve deeper to understand if the teachers who left were more or less effective than those who came in or stayed.

### Relative Effectiveness of Teachers Who Entered, Stayed, and Left ASD and iZone schools

The advantages of a stable teacher workforce may be undermined if the teachers who enter and stay are less effective than those who leave the school. In Table 2, we present two measures of teachers' effectiveness: average value-added scores (TVAAS)<sup>5</sup> of teachers and the ratio of teachers with high value-added scores (levels 4 & 5), indicating they are highly effective, to those with low valueadded scores (levels 1 & 2), indicating they were ineffective. Using both measures, we report on teachers that stayed, moved or left, or entered ASD schools (both those managed by external operators and Achievement Schools), iZone schools, and non-ASD, non-iZone Priority Schools. These scores range from five for teachers who were very effective in raising their students' test scores to one for those who were least effective in raising their students' scores. However, TVAAS scores are not available for teachers in their first year, teachers who have not previously taught in Tennessee public schools, or those who did not teach in tested subjects in tested grades.

Overall, both ASD and iZone schools recruited more highly effective teachers (Incoming) using both measures-higher average TVAAS scores (3.35 and 3.38 respectively) and higher ratio of effective (4 & 5 scores) relative to ineffective (1 & 2 scores) teachers (1.54 and 1.52, respectively) compared to other priority and non-priority Tennessee schools. Also, less effective teachers left the ASD schools (2.97) and iZone (2.79) as well as other Priority Schools in Tennessee (2.73). Another important way of looking at these measures is to compare the replacement differences within the four groups of schools. The iZone schools had the largest gains from teacher replacement, gaining 0.59 average TVAAS score points from incoming versus moving and leaving teachers. ASD schools also posted gains of 0.38 average TVAAS score points, larger than Tennessee's other priority schools average gain of 0.11. The ratios of effective to ineffective teachers follow this narrative.

When we further break these measures down by cohort and within ASD cohorts by type of management (Achievement Schools and externally operated schools), the most striking pattern (not displayed here to conserve space)

<sup>&</sup>lt;sup>5</sup> Tennessee's Value-Added Assessment System (TVAAS) is a measure of student growth on state exams.

	Average TVAAS Scores			Ratio of Teachers with High Growth Scores (5+4) to Low Growth Scores (1+2)		
	Stayers	Movers & Leavers	Incoming	Stayers	Movers & Leavers	Incoming
ASD	2.81	2.97	3.35	0.59	0.96	1.54
	(36)	(125)	(78)	(27)	(94)	(61)
iZone	3.44	2.79	3.38	1.90	0.75	1.52
	(403)	(280)	(213)	(302)	(212)	(169)
Other Priority	2.97	2.73	2.84	0.97	0.68	0.81
	(968)	(373)	(172)	(759)	(283)	(132)
Other TN Schools	3.43	3.18	3.18	1.88	1.29	1.29
	(67673)	(9075)	(6158)	(50999)	(6777)	(4632)

Table 2. Average Teacher TVAAS Scores for Stayers, Movers & Leavers, and Incoming Teachers in ASD, iZone, and Other Priority Schools in Tennessee, 2012-13 to 2014-15

Note: Numbers in parentheses indicate the total number of TVAAS scores observed.

is that the third cohort of schools for both the iZone and ASD averaged incoming TVAAS scores of 2.29 and 2.78, respectively, which means they rated below expectation (score of 3), which is consistent with the ratio measure (0.43 and 0.75, respectively). The third cohort of ASD and Memphis iZone schools included high schools for the first time. Whether these results raise questions about the effectiveness of new cohorts of ASD and iZone schools in attracting the same level of high quality teachers they have recruited in the past or difficulty attracting highly effective high school teachers to these schools in Memphis is unclear.

Also, it is worth noting that while the initial cohort of Achievement Schools seems to have attracted very high performing teachers (an average TVAAS score of 3.64 and ratio of effective to ineffective teachers of 2.27), it also appears that the teachers who exited those ASD schools scored higher on both measures than the teachers that were retained (3.22 versus 3.11 average TVAAS score and 1.24 versus 0.90 ratio of effective to ineffective). Finally, there were no systematic differences between externally managed schools and Achievement Schools. These findings suggest that the ASD schools experienced a high level of turnover and they have lost more effective teachers than they have retained. Another way to look at recruitment and retention of high quality teachers is to focus on a specific cohort of schools and examine the patterns of stayers, movers (i.e., move to another school), leavers (i.e., exit the Tennessee public school system), and incoming teachers (i.e., teachers new to the school). In Figure 2, we focus on the first cohort of Memphis iZone and ASD schools over the three years and display the number of stayers and incoming teachers in each category above the line and the movers and leavers below the line by their TVAAS scores. Ideally schools would have positives (large columns above the line) for TVAAS scores of 4 and 5 and negatives (large columns below the line) for scores on 1 and 2. As the figure suggests, the Memphis iZone schools have done an excellent job of retaining and recruiting the highest quality teachers, as the number of incoming/stayer teachers with a TVAAS score of 5 is much greater than the number of moving/leaving teachers in the Memphis iZone schools. In addition, the Memphis iZone schools appear to have done a good job of developing and supporting teachers as the number of stayers with a TVAAS score of 5 increased significantly in years 2 and 3 compared to year 1. This is in contrast to the number of stayers and incoming teachers with a TVAAS score of 4 or 5 in ASD schools, which are not distinctly different than the least effective teachers and did not grow substantially.

While managing the mobility of teachers who exhibit differential effectiveness and developing teacher skills over time are not the only means by which school management can affect outcomes, they are obviously an important management strategy. These patterns may help explain the success of iZone schools we previously reported in a 2015 research brief (Zimmer et al., 2015).

## Conclusions

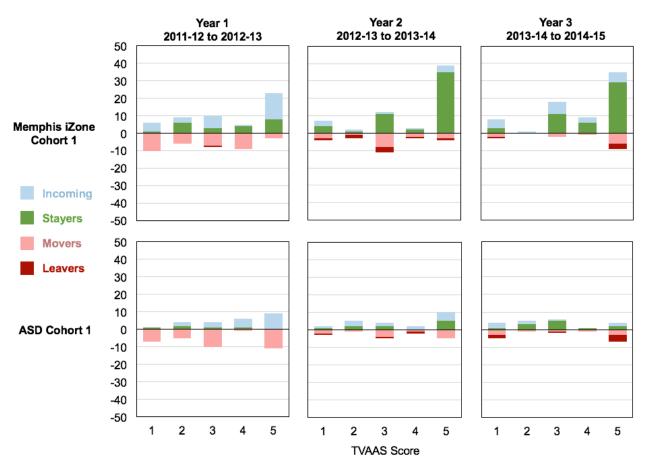
In 2010, with Race to the Top funding, Tennessee embarked on a bold plan to remove many of its lowest performing schools from their local school districts and place them in the state's Achievement School District (ASD) or district-run innovation zones known as iZones. In previous research, we did not find positive gains for ASD schools. However, we found that iZone schools made moderate to large gains in student test scores in every subject, especially in Memphis, where most of the iZone schools operate.

To explore possible explanations for differing success at

improving performance, this research brief examined teacher recruitment, retention, and development in both ASD and iZone schools. The analysis indicates that both ASD schools and iZone schools initially did a good job of recruiting high quality teachers. However, the analysis suggests that iZone schools have been more effective at retaining and developing high quality teachers over time, especially among the first two cohorts of iZone schools. Both the successful retention and recruitment of high quality teachers as well as the apparent development of those teachers seems to contribute to the strong performance of iZone schools. The ASD exhibits high turnover rates in comparison with all Tennessee Priority Schools and tends to lose teachers who are more effective than those who they retain, which may have undermined their ability to increase student test score gains.

It is also important to note that both ASD and iZone schools have had challenges in recruiting high quality teachers in the 2014-15 cohort of schools, consistent with our achievement analysis which found no significant effects for student learning for the third cohort of either ASD or iZone schools. This may indicate that the pool of talented





teachers currently interested in teaching in ASD or iZone schools may be too limited to meet the needs in the lowest performing schools or reflect the addition of high schools into Cohort 3 of both ASD and Memphis iZone and a shortage of highly effective high school teachers willing to work in Memphis.

In addition, these results raise questions about whether the moderate to large gains posted by the iZone schools can be sustained over time with the existing and new cohort of iZone schools. The Memphis iZone schools provided approximately 10 percent higher pay than the other schools in Memphis. On average, the third cohort of iZone schools did not recruit teachers who were as effective as those in previous cohorts. This may indicate that the current incentives to attract high quality teachers are not sufficient to recruit a sufficient pool of high quality teachers to further scale-up iZone schools.

Our findings strongly suggest that the ASD as well as its contracted external operators need to reevaluate and revise their strategies and practices for recruiting and retaining teachers as well as the strategies and practices that they currently implement for teacher development. Finally, the turnover of teachers in the ASD schools makes it less likely that multi-year strategies for developing teachers will be effective since most teachers in any given year will not have been there in the prior year.

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# Prior Research Briefs on the Achievement School District and iZone schools in Tennessee

## Teacher and Student Migration in and out of Tennessee's Achievement School District (2015)

Overall, we found that the vast majority of teachers exited schools once they came under the auspices of the ASD. Therefore, the ASD faced a significant need to hire new teachers in their first year of operation. Among the new hires, nearly a third were novice teachers. Of those with teaching experience in Tennessee, the ASD hired more high performing teachers, in terms of value-added scores, as compared to the teachers that left before the ASD takeover. In terms of student mobility, we found that the ASD had a high rate of student mobility into their schools in the first year of takeover, but the rates declined with each subsequent year. In examining the students that move in and out, the proficiency levels of students transferring into ASD schools had little effect on the overall proficiency rates of ASD schools.

Available at:

http://www.tnconsortium.org/data/files/gallery/ContentGallery/TCREDASDReport Zimmer 020915 Revised 022715.pdf

## Evaluation of the Effect of Tennessee's Achievement School District on Student Test Scores (2015)

Overall, while the effects across all the Priority schools were small but positive, the effects in the 26 iZone schools were positive and moderate to large across all tested subjects. The effects in the ASD schools were mainly indistinguishable from zero and when significant, sometimes positive and sometimes negative depending on subject and management organization.

#### Available at:

http://www.tnconsortium.org/data/files/gallery/ContentGallery/ASD\_Impact\_Policy\_Brief\_Final\_12.8.15.pdf

## Effective Teacher Retention Bonuses: Evidence from Tennessee (2014)

Tennessee's teacher retention bonus program awarded \$5000 to teachers who receive the highest effectiveness rating on the state's teacher evaluation system (level 5) if they decide to stay in one of the state's priority schools. Level 5 teachers receiving this bonus were 23% more likely to remain in a priority school, compared to teachers just below the cutoff for receiving an effectiveness rating of five. Among level 5 teachers, those receiving the bonus and teaching in tested subjects were 24.3% more likely to remain teaching in a priority school, whereas those in non-tested subjects are no more or less likely to stay. Schools with a larger proportion of economically disadvantaged students were more likely to participate in the teacher retention bonus program.

### Available at:

http://www.tnconsortium.org/data/files/gallery/ContentGallery/Effective Teacher Retention Bonuses Evidence from TN.pdf

## Research into Tennessee's Achievement School District: Accountability, Incentives, and Guidance for Providers (2015)

This report elaborates the theory of action that undergirds the Tennessee Achievement School District (ASD), including the ideological commitments of ASD leaders, and the strategy they think will lead to improvement in student outcomes. The report further examines underlying beliefs of ASD providers, highlighting fundamental differences in their beliefs about teaching and learning. In addition, the difficulty of using state assessment to support organizational learning among providers and the ASD leadership is also discussed.

#### Available at:

http://www.tnconsortium.org/data/files/gallery/ContentGallery/ASDReport\_Glazer\_020915.pdf

## "This is the Big Leagues:" Charter-led Turnaround in a non-Charter World (2016)

With mounting evidence of promising results in charter schools serving disadvantaged students, charter networks have been urged to expand their reach to turn around the most chronically low-achieving schools. But such work often imposes stricter conditions that are different from those that charters typically enjoy. Do these differences undermine the theory of action that was meant to make charters effective in the first place? What adaptations to their school models and organizational capacities does this environment require? This article addresses those questions using evidence from a three-year study of charters in the Tennessee Achievement School District. We discuss how operators were pressed to substantially revise their core assumptions and strategies in response to this new environment, despite the many charter-like affordances they received.

#### Available at:

http://www.tnconsortium.org/data/files/gallery/ContentGallery/TNCREDBigLeaguesReport\_0624162.pdf

## The Tennessee Achievement School District: Race, History, and the Dilemma of Public Engagement (2016)

The Tennessee Achievement School District (ASD) is one of several state-run districts established to turnaround underperforming schools. Like other such districts, the ASD removes schools from their local district, yet is not accountable to local political institutions. But despite its authority, the ASD has been undermined by unrelenting opposition within Memphis where its schools reside. Underlying the political dynamics surrounding the ASD are two divergent narratives. For supporters, the ASD is an innovative effort to improve the educational experience for the most disadvantaged students. Critics see an enterprise motivated by profit, paternalism, and racism. One lesson from the ASD experience is that while state-run districts seek to circumvent local politics, the absence of mechanisms for brokering compromise in cities with deep historical divisions, may prove impossible.

#### Available at:

http://www.tnconsortium.org/data/files/gallery/ContentGallery/ASD Dilemma of Engagement.pdf